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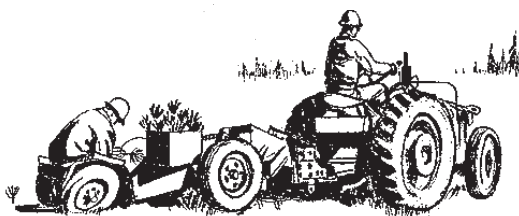
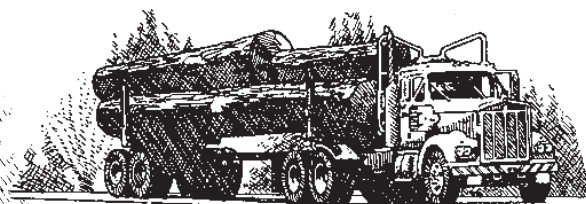
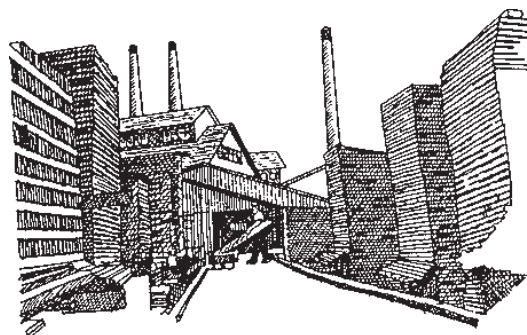


Southern
Research Station

Resource Bulletin
SRS-68

Georgia's Timber Industry— An Assessment of Timber Product Output and Use, 1999

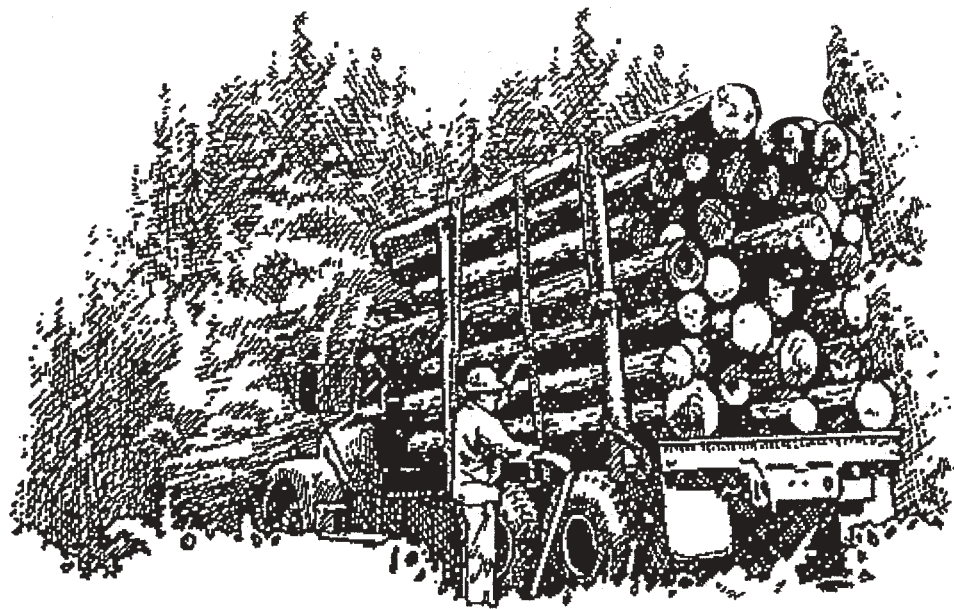
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Foreword

This report contains the findings of a 1999 canvass of all primary wood-using plants in Georgia, and presents changes in product output and residue use since 1997. It complements the Forest Inventory and Analysis (FIA) periodic inventory of volume and removals from the State's timberland. The canvass was conducted to determine the amount and source of wood receipts and annual timber product drain, by county, in 1999 and to determine interstate and cross-regional movement of industrial roundwood. Only primary wood-using mills were canvassed. Primary mills are those that process roundwood in log or bolt form or as chipped roundwood. Examples of industrial roundwood products are saw logs, pulpwood, veneer logs, poles, and logs used for composite board products. Mills producing products from residues generated at primary and secondary processors were not canvassed. Trees chipped in the woods were included in the estimate of timber drain only if they were delivered to a primary domestic manufacturer.

A 100-percent canvass of all wood processors in Georgia was conducted in 2000 to obtain information for 1999. In addition, roundwood from out-of-State mills known to be using logs or bolts harvested from Georgia timberland was incorporated into Georgia production estimates. Each mill was canvassed by mail or through personal contact at plant locations. Telephone contacts followed mailed questionnaire responses when additional information or

clarification of a response was necessary. In the event of a nonresponse, data collected in previous surveys were updated using current data collected for mills of similar size, product type, and location. Surveys for all timber products other than pulpwood began in 1961, and are currently conducted every 2 years.

Pulpwood production data were taken from an annual canvass of all southeastern pulpmills. Medium density fiberboard, insulating board, and hardboard plants were included in this survey.

Acknowledgments

The authors thank Tommy Loggins for review and comments; Dale Gormanson from the North Central Research Station for the maps; Anne Jenkins, Susan Bowman, and Donna Burnett for tables, graphs, and statistical checking; and Paul Smith, Diana Corbin, and Louise Wilde for editorial review, styling, and publication of this report.

The Southern Research Station gratefully acknowledges the cooperation and assistance provided by the Georgia Forestry Commission in collecting mill data. Appreciation is also extended to forest industry and mill managers for providing timber products information.

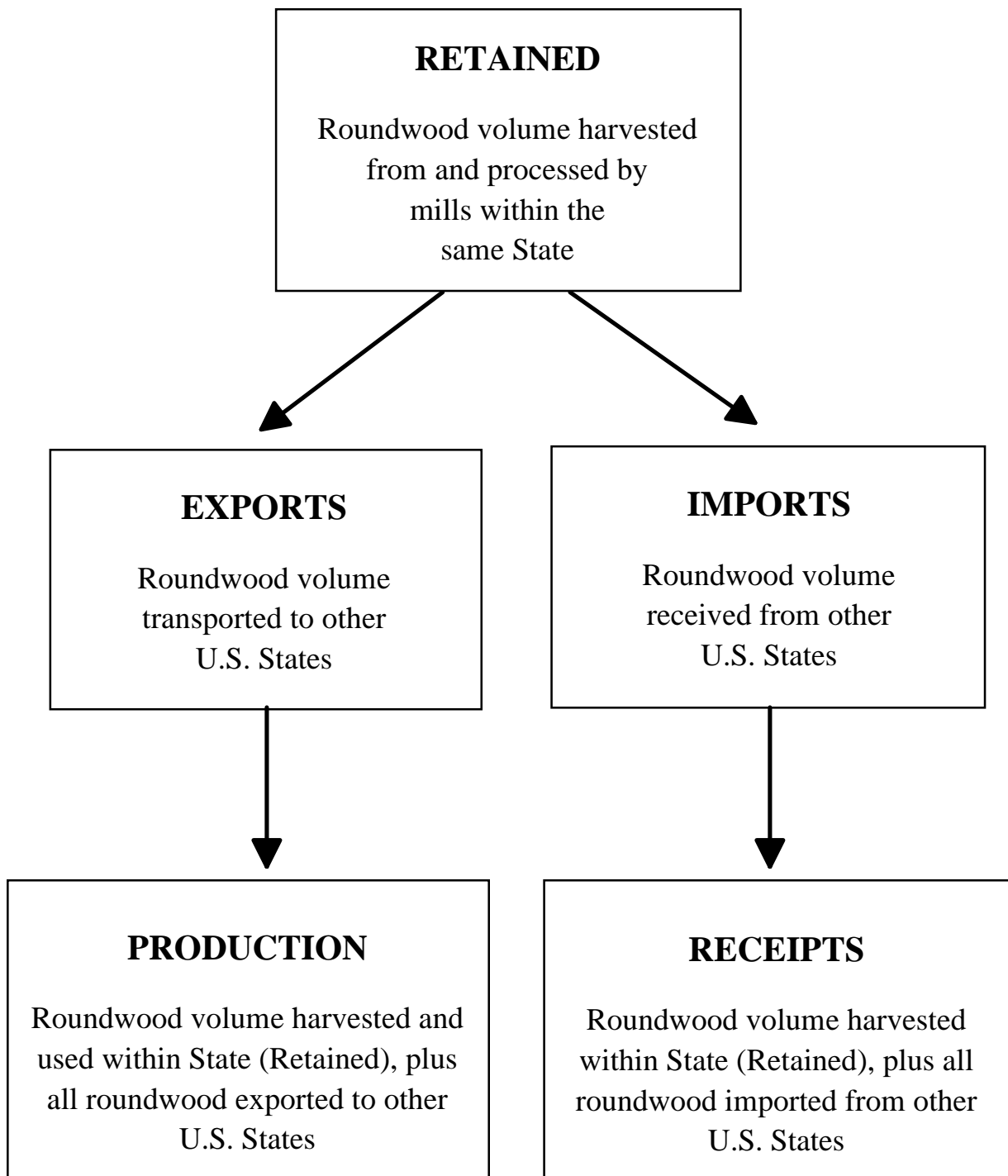


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^a All tables in this report are available in Microsoft® Excel workbook files. Upon request, these files will be supplied on 3½-inch diskettes.

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Production = Retained + Exports

Receipts = Retained + Imports

Figure 1—Movement of roundwood exports and imports within the United States.

Georgia's Timber Industry— An Assessment of Timber Product Output and Use, 1999

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Output of Industrial Timber Products

Note: Certain terms used in this report—retained, export, import, production, and receipts—have specialized meanings and relationships unique to the Forest Inventory and Analysis Units across the country that deal with timber products output (fig. 1).

All Products

- Between 1997 and 1999, the combined industrial timber products output (TPO) from roundwood and plant byproducts declined 2 percent from 1.76 to 1.72 billion cubic feet.
- Timber products output from roundwood was down 36 million cubic feet, or 3 percent, to 1.24 billion cubic feet,

while output of plant byproducts declined 5 million cubic feet to 474 million cubic feet.

- Output of softwood roundwood products declined less than 1 percent, totaling 997 million cubic feet, while output of hardwood roundwood products was down 12 percent to 247 million cubic feet (fig. 2).
- Figures 3 and 4 display softwood and hardwood county-level intensity of roundwood production for all industrial products across Georgia. The data are depicted in cubic feet produced per acre of census land area. Counties with the highest production intensity are depicted in the darker shades. For softwoods the darkest shade represents more than 40 cubic feet of production per acre, while for hardwoods the darkest shade represents more than 20 cubic feet per acre.

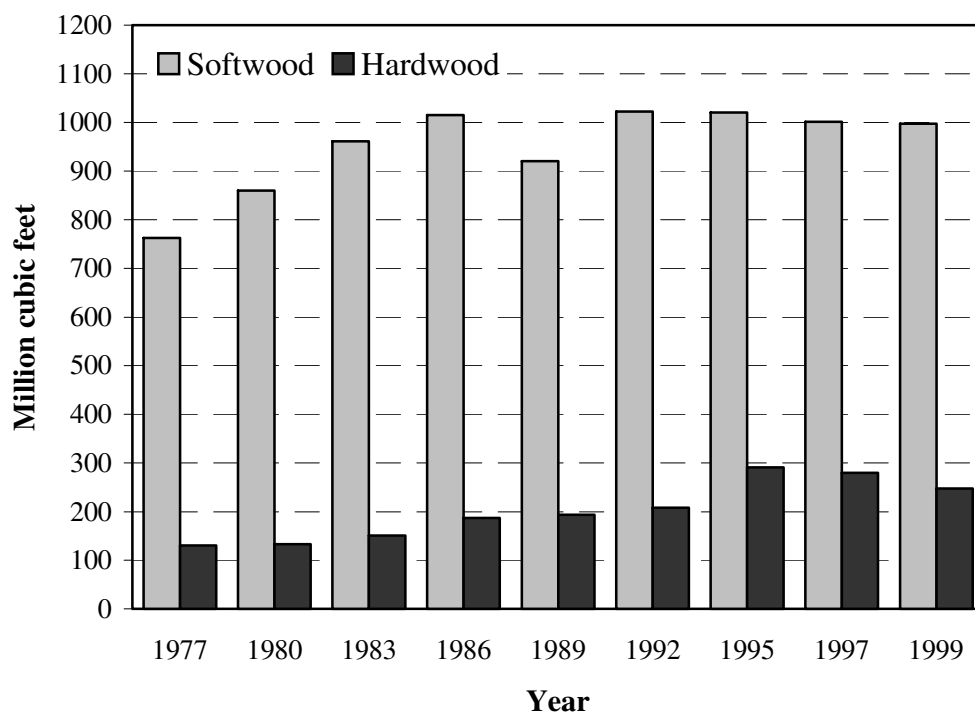


Figure 2—Roundwood production for all products by species group and year (see page 10 for references for individual years).

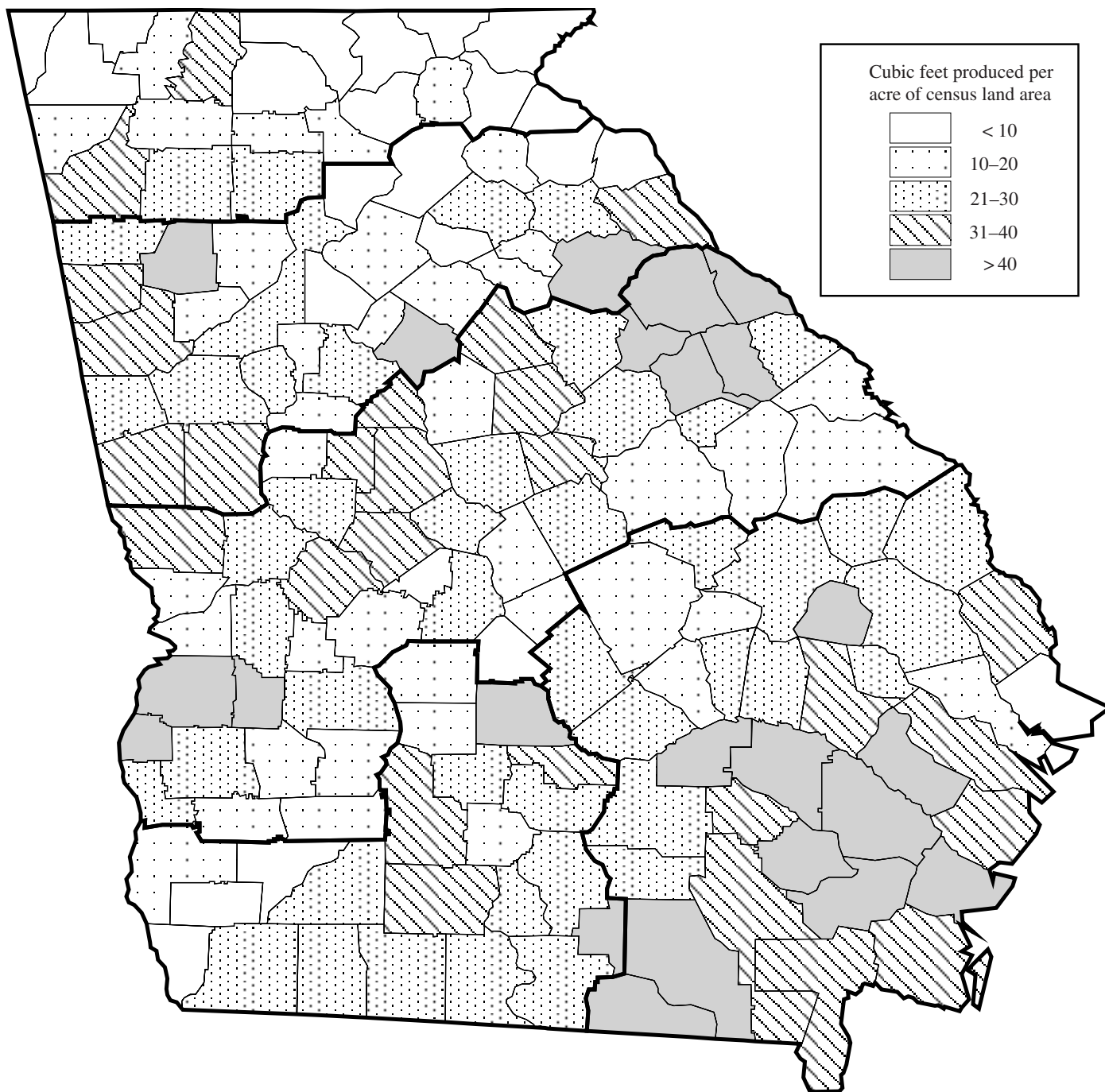


Figure 3—Intensity of roundwood softwood output for all industrial products in Georgia by county, 1999.

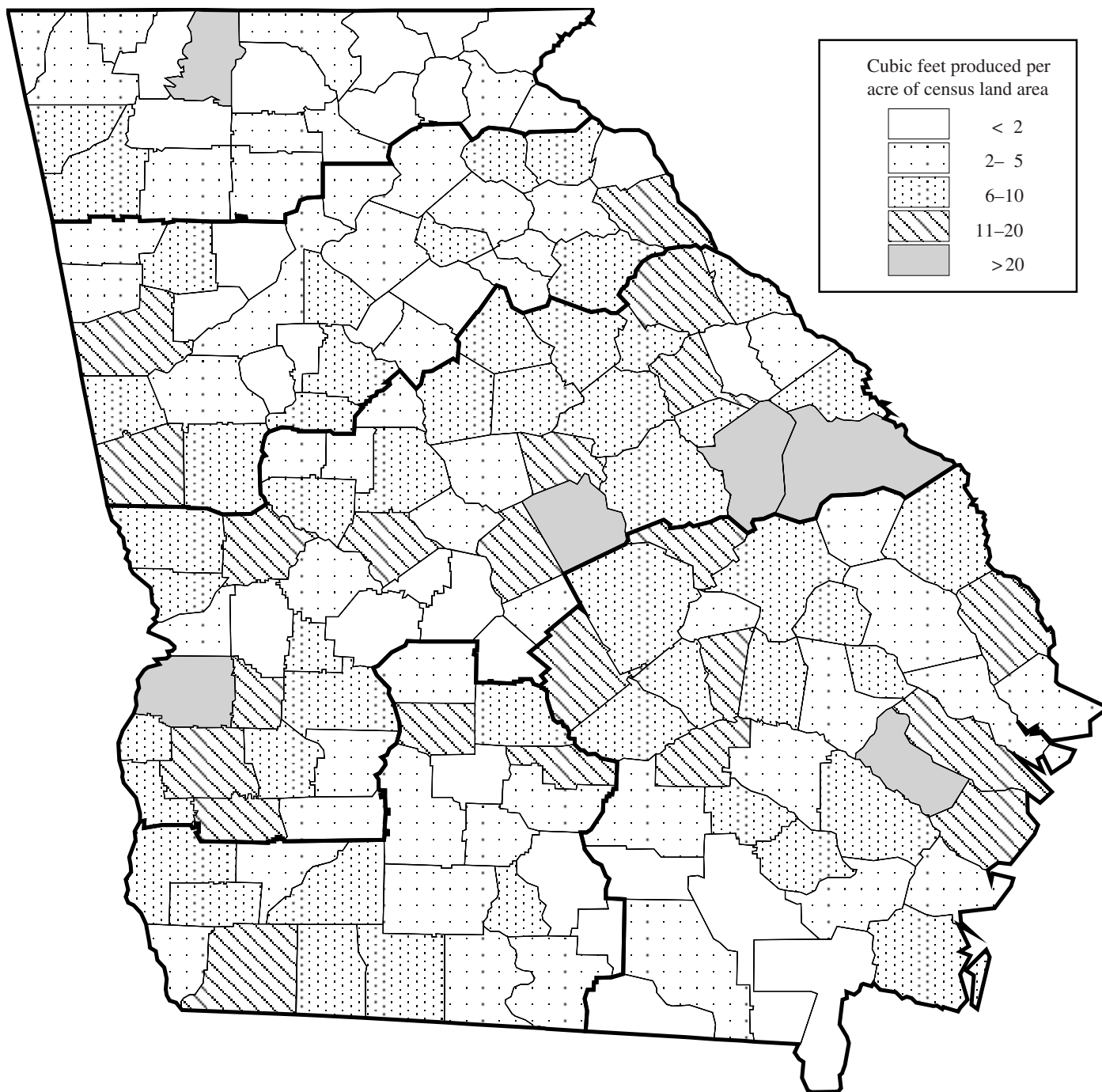


Figure 4—Intensity of roundwood hardwood output for all industrial products in Georgia by county, 1999.

- Pulpwood and saw logs were the principal roundwood products in 1999. Combined output of these two products totaled 1.1 billion cubic feet and accounted for 89 percent of the State's total industrial roundwood output (fig. 5).
- Total receipts at Georgia mills, which included roundwood harvested and retained in the State and roundwood imported from other States, declined 7 percent to 1.3 billion cubic feet. The number of primary roundwood-using plants in Georgia increased from 186 in 1997 to 188 in 1999.

Pulpwood

- Total pulpwood production, including chipped roundwood, declined 4 percent to 594 million cubic feet (8.1 million cords) and accounted for 48 percent of the State's total roundwood TPO. Softwood output declined 2 percent to 431 million cubic feet; hardwood output declined 9 percent to 163 million cubic feet (fig. 6).
- Twelve pulpmill facilities were operating and receiving roundwood in Georgia in 1999, one less than in 1997. Total pulpwood receipts for these mills declined 78 million cubic feet to 594 million cubic feet, accounting for 47 percent of total receipts for all mills.

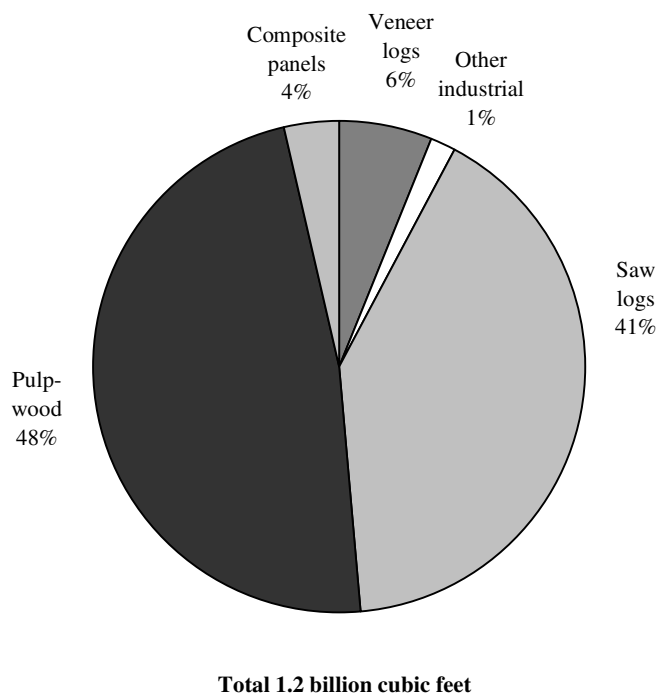


Figure 5—Roundwood production by type of product, 1999.

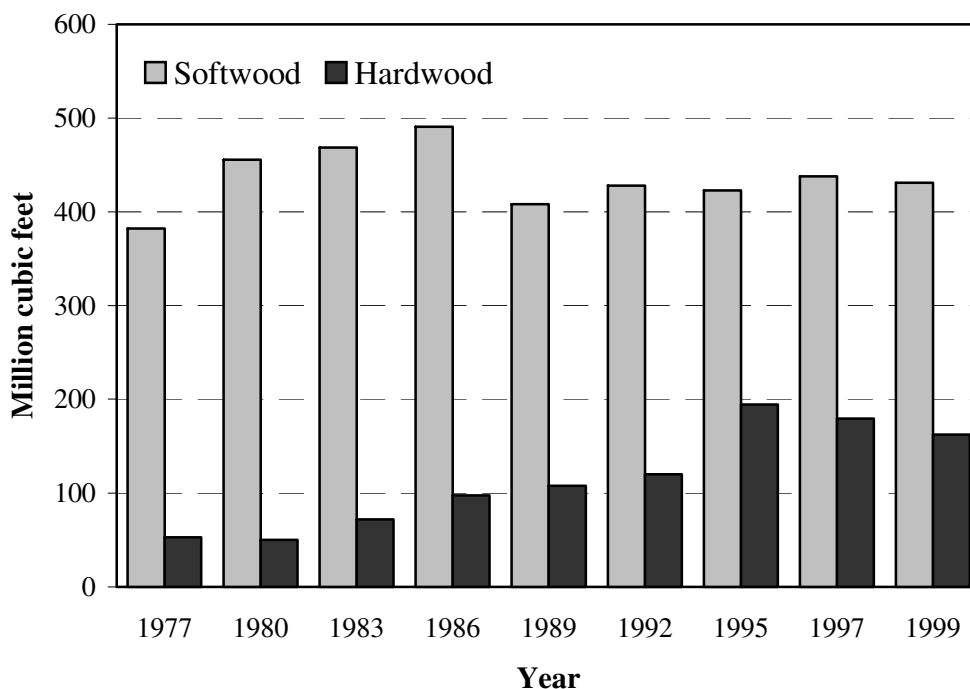


Figure 6—Roundwood pulpwood production by species group and year (see page 10 for references for individual years).

- Seventy-seven percent of roundwood cut for pulpwood was retained for processing at Georgia pulpmills. Roundwood pulpwood accounted for 73 percent of total known exports and 66 percent of total imports. Roundwood pulpwood imports and exports were nearly in balance at 137 million cubic feet.

Saw Logs

- Saw logs accounted for 41 percent of the State's total roundwood products. Output of softwood saw logs increased 1 percent to 447 million cubic feet (2.4 billion board feet, International ¼-inch rule), while that of hardwood saw logs declined 20 percent to 62 million cubic feet (368 million board feet, International ¼-inch rule) (fig. 7).
- Georgia currently has 129 sawmills, the same as in 1997. The total number of sawmills does not include the several one-man sawmills in the State. Total saw-log receipts were down 19 million cubic feet to 512 million cubic feet. Softwood saw-log receipts declined 1 percent to 453 million cubic feet, while those of hardwoods declined 18 percent to 59 million cubic feet. Of the operating mills,

26 percent had receipts of less than 1 million board feet, while 37 percent had receipts greater than 10 million board feet. These 48 mills, however, accounted for 94 percent of total saw-log receipts.

- Georgia retained 93 percent of its saw-log production for domestic manufacture, with saw-log imports exceeding exports by 3 million cubic feet in 1999.

Veneer Logs

- Output of veneer logs in 1999 totaled 75 million cubic feet and accounted for 6 percent of the State's total roundwood TPO volume. Softwood veneer production declined 3 percent to 59 million cubic feet (348 million board feet, International ¼-inch rule); output of hardwood veneer logs increased 1 percent to 16 million cubic feet (98 million board feet, International ¼-inch rule) (fig. 8).
- The number of veneer mills operating in Georgia increased from 11 to 12 since 1997. Receipts of veneer logs increased 7 percent to 85 million cubic feet. Softwood veneer receipts were up 3 million cubic feet, to 62 million cubic feet.

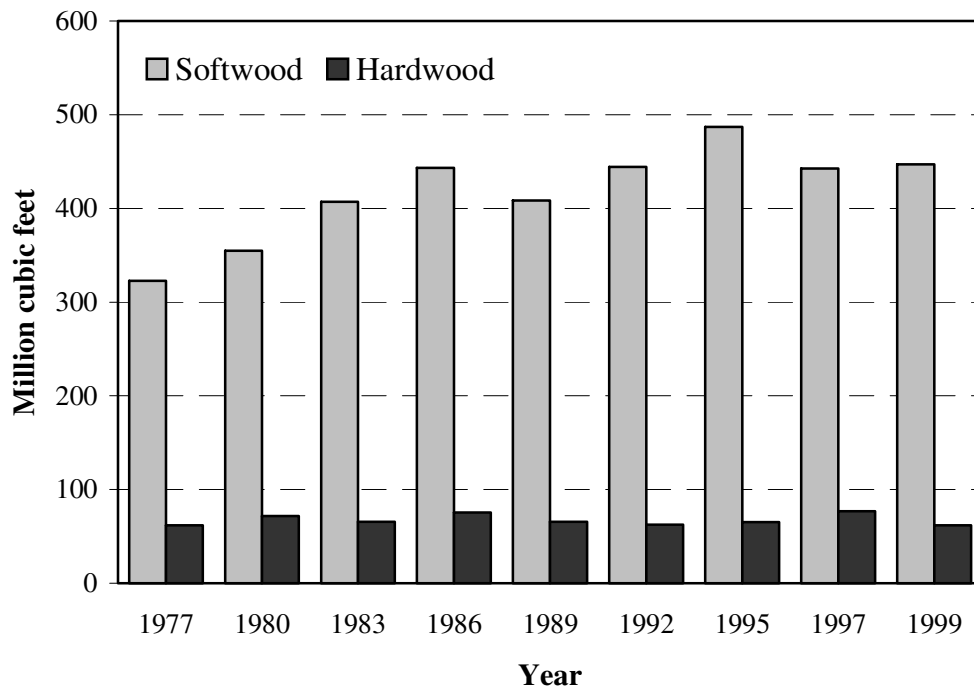


Figure 7—Roundwood saw-log production by species group and year (see page 10 for references for individual years).

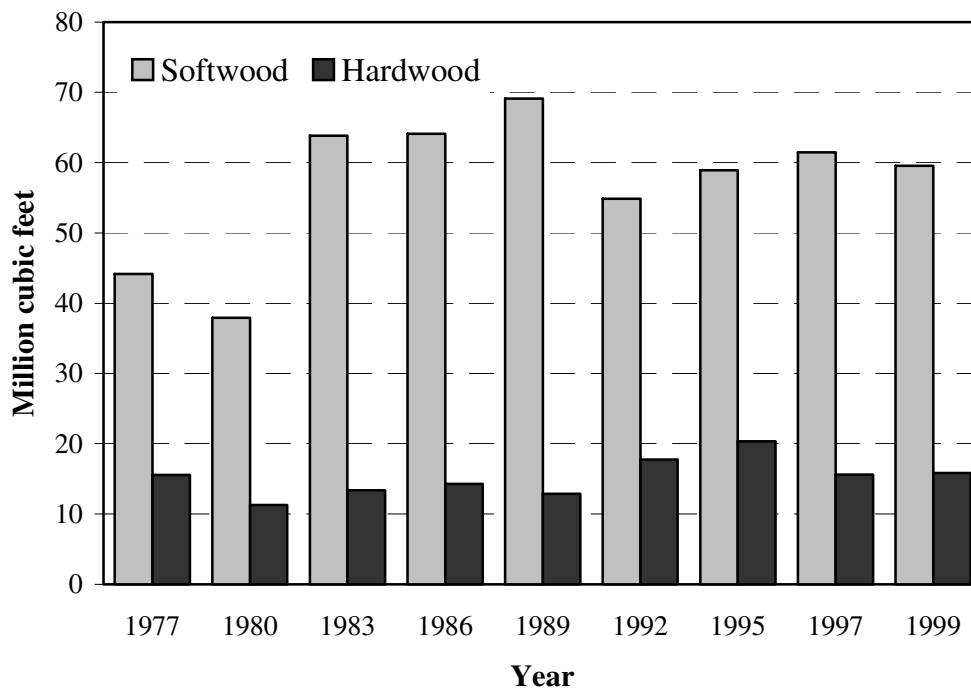


Figure 8—Roundwood veneer-log production by species group and year (see page 10 for references for individual years).

- Georgia retained 86 percent of its veneer-log production for processing at domestic veneer mills. Imports amounted to 20 million cubic feet, and exports totaled 10 million cubic feet, making the State a net importer of roundwood veneer logs.

Composite Panels

- Roundwood harvested from Georgia's forests for composite panels declined 7 percent and totaled 46 million cubic feet. Softwood output was down 6 percent to 40 million cubic feet (551 thousand cords); hardwood production declined 13 percent to 6 million cubic feet (83 thousand cords) (fig. 9).
- Four oriented strand board (OSB) mills were operating in Georgia in 1999. Total receipts for these mills declined 10 percent to 53 million cubic feet, and accounted for 4 percent of the State's total receipts.
- Ninety-six percent of the roundwood production harvested for composite panels was retained for processing at Georgia's mills. Imports amounted to 9 million cubic feet, and exports totaled 2 million cubic feet, making the State a net importer of roundwood used for composite panels.

Other Industrial Products

- Roundwood harvested for other industrial uses such as poles, posts, mulch, firewood, logs for log homes, and all other industrial products totaled 21 million cubic feet, a 24-percent increase from 1997. Softwood made up 96 percent of the other industrial products volume.
- The number of plants producing other industrial products increased from 28 to 31 since 1997. Combined receipts of other industrial products from softwood and hardwood increased 30 percent to 21 million cubic feet.
- Georgia was a net importer of roundwood used for other industrial products, but only by a small margin; nearly all of the 2 million cubic feet imported and 1.5 million cubic feet exported were softwood.

Plant Byproducts

- In 1999, processing of primary products in Georgia mills generated 483 million cubic feet of wood and bark residues. Coarse residues from all primary products amounted to 193 million cubic feet, while bark volume totaled 145 million cubic feet. Collectively, sawdust and

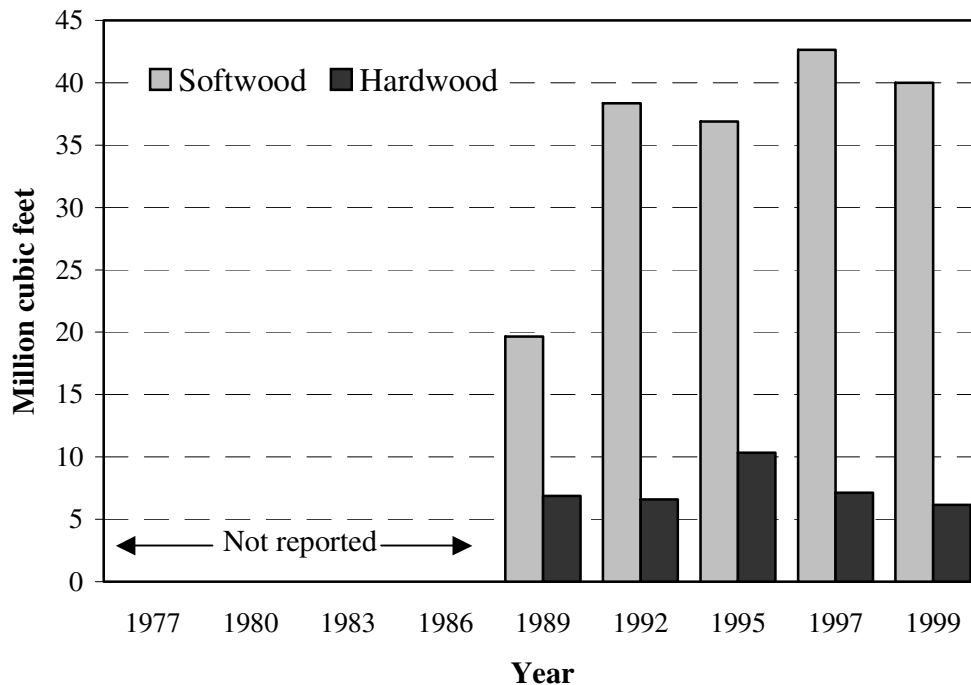


Figure 9—Roundwood production for composite panels by species group and year (see page 10 for references for individual years).

shavings made up 30 percent of total residues, or 145 million cubic feet (fig. 10).

- More than 474 million cubic feet, or 98 percent, of the wood and bark residues were used for a product. While 2 percent of the residues were not used for a product, 39 percent of the residues were used for industrial fuel and 35 percent were used for fiber products (fig. 11). More than 160 million cubic feet, or 83 percent, of the coarse residues were used for fiber products. Most of the bark was used for industrial fuel or other miscellaneous products, while 46 percent of the sawdust and shavings were used for industrial fuel.
- The processing of saw logs generated 324 million cubic feet of mill residues, accounting for 67 percent of the total residues produced (fig. 12).

Regional Trends

- Output of industrial roundwood products declined in all regions with the exception of the Northern region. The North Central region had the largest decline at 13 percent. Most regions experienced significant drops in hardwood output.

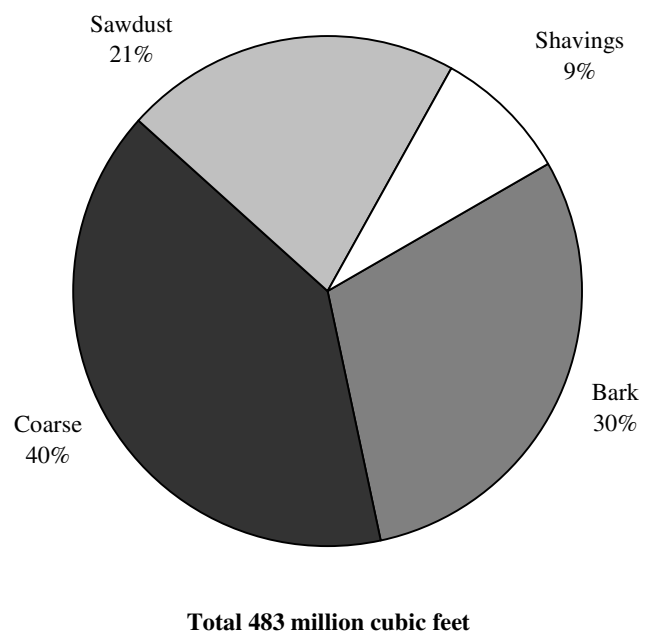


Figure 10—Primary mill residue by residue type, 1999.

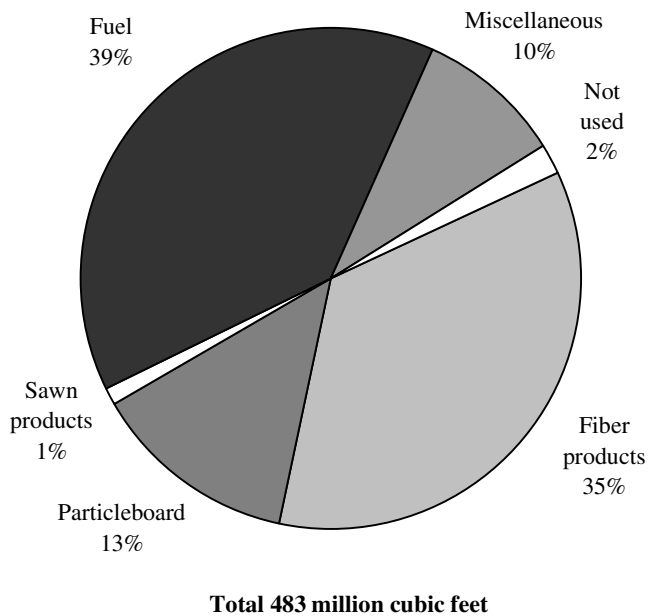


Figure 11—Disposal of residue by product, 1999.

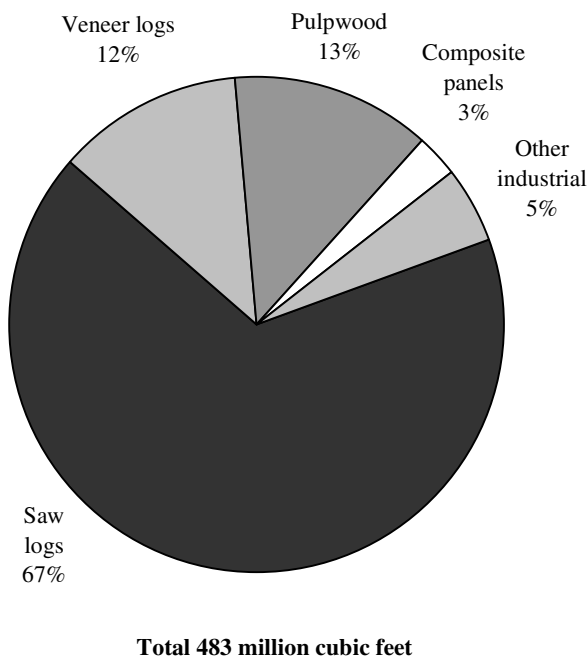


Figure 12—Primary mill residue produced by roundwood type, 1999.

Southeast Region

- Roundwood output from the Southeast Georgia region totaled 431 million cubic feet, down 2 percent since 1997.
- Pulpwood accounted for 53 percent of the region's TPO and 39 percent of the State's roundwood pulpwood output. The 174 million cubic feet of saw logs accounted for 40 percent of the total roundwood output for the region and 34 percent of the State's total saw-log output, the highest of any region.
- In the Southeast region, 51 primary wood-using plants were operating during 1999: 30 sawmills, 3 veneer or plywood mills, 5 pulpmills, and 13 other miscellaneous mills. These mills processed 35 percent of the State's total roundwood output.

Southwest Region

- One hundred and seventy-two million cubic feet of roundwood were produced in the Southwest Georgia region, a 1-percent decline.
- Saw-log production of 83 million cubic feet accounted for 48 percent of the region's total roundwood output. Production of pulpwood increased 7 percent and accounted for 38 percent of the region's total roundwood output. This was the only region that had an increase in both softwood and hardwood production.
- The 27 mills operating in the Southwest Georgia region in 1999 included 15 sawmills, 3 veneer or plywood mills, 2 pulpmills, 2 composite panel mills, and 5 other miscellaneous mills. These mills accounted for 14 percent of the total roundwood output for the State.

Central Region

- Roundwood output from the Central Georgia region totaled 385 million cubic feet, down 1 percent. Roundwood production from this region accounted for 31 percent of the total roundwood TPO for the State.
- Pulpwood production declined by 3 percent to 189 million cubic feet, accounting for 49 percent of the region's total TPO. Saw-log production of 161 million cubic feet accounted for another 42 percent of the region's total roundwood output.

- The 45 primary wood-using plants operating in Central Georgia included 4 pulpmills, 34 sawmills, 3 veneer or plywood mills, and 4 other miscellaneous mills.

North Central Region

- Roundwood output from the North Central Georgia region totaled 178 million cubic feet, a 13-percent decline since 1997. This region accounted for 14 percent of the State's total TPO.
- Saw-log production was down 16 percent to 58 million cubic feet, accounting for 33 percent of the region's total roundwood output. Production of pulpwood dropped 11 percent and accounted for 39 percent of the region's total roundwood output. With 25 and 21 million cubic feet, respectively, this region accounted for 33 percent of the State's veneer output and 46 percent of the composite panel production.
- In the North Central region, 26 primary wood-using plants were operating during 1999: 15 sawmills, 2 veneer or plywood mills, 2 composite panel mills, and 7 other miscellaneous mills.

Northern Region

- Roundwood output from the Northern Georgia region totaled 79 million cubic feet, an increase of 4 percent since 1997.
- Saw-log production increased 2 percent to 33 million cubic feet and accounted for 42 percent of the region's total roundwood output. Pulpwood production was down 1 percent and accounted for 49 percent of the region's total TPO.
- In the Northern region, 39 primary wood-using plants were operating during 1999: 35 sawmills, 1 veneer or plywood mill, 1 pulpmill, and 2 other miscellaneous mills. These mills processed 6 percent of the State's total roundwood output.

Total Roundwood Output

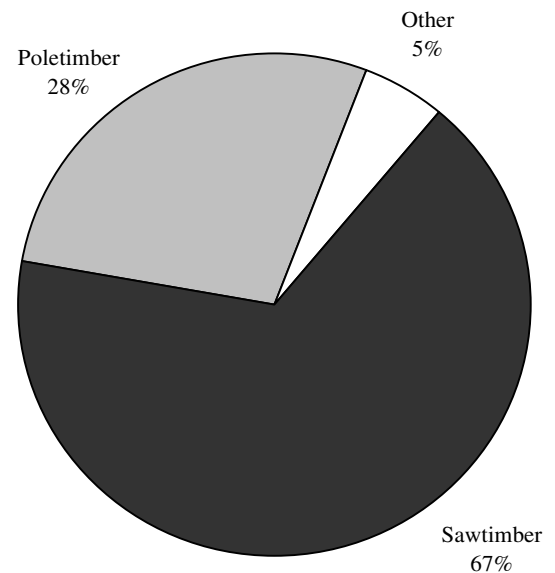
- Using the most recent inventory data for Georgia, product output by source, ownership, and detailed species group was estimated.

Source

- In addition to the 1.2 billion cubic feet of roundwood output for industrial roundwood, an estimated 68 million cubic feet were harvested for domestic fuelwood, bringing Georgia's total roundwood output to 1.3 billion cubic feet.
- Ninety-five percent of total roundwood output was considered growing-stock volume (sawtimber and poletimber) from timberland sources. Other sources (such as saplings; stumps, tops, and limbs of trees on timberland; and trees on nonforest land) contributed an estimated 68 million cubic feet, or 5 percent of total roundwood output (fig. 13).

Ownership

- An estimated 879 million cubic feet, or 67 percent, of the total roundwood output came from nonindustrial private forest (NIPF) lands. Forest industry lands contributed 382 million cubic feet, or 29 percent of the output. Public lands made up the remaining 4 percent, or 51 million cubic feet (fig. 14).



Total 1.3 billion cubic feet

Figure 13—Roundwood output by source, 1999.

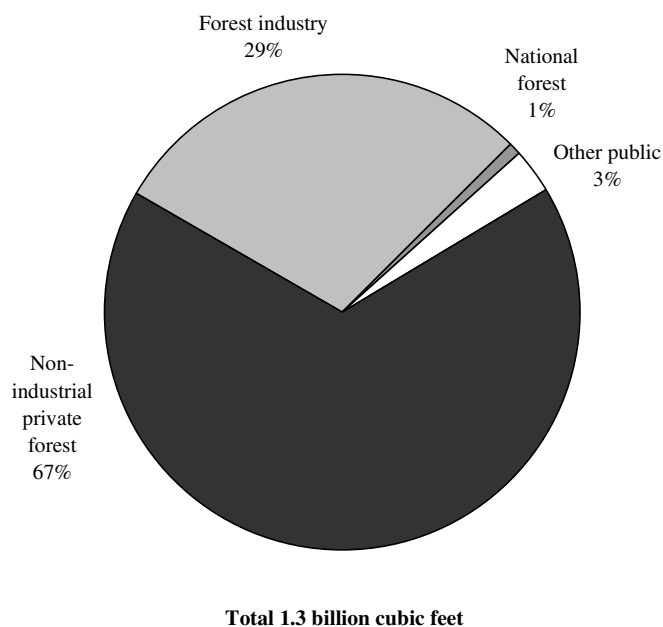


Figure 14—Roundwood output by ownership, 1999.

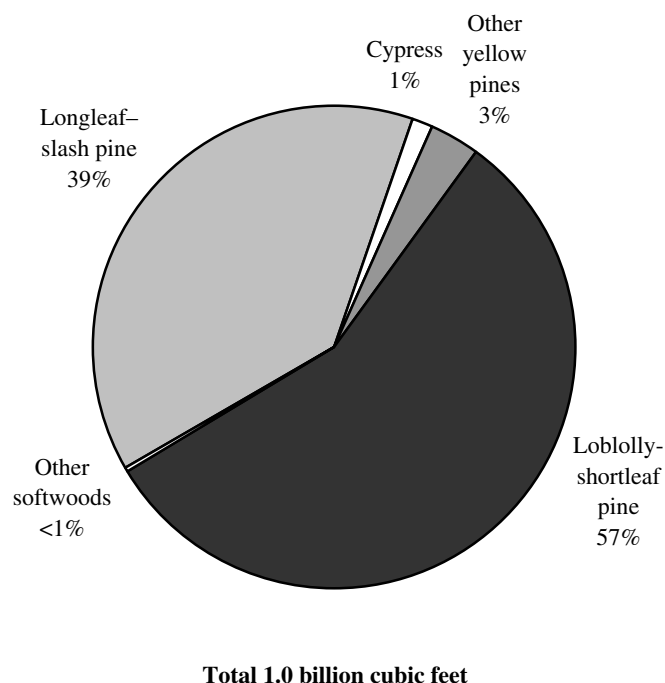


Figure 15—Roundwood output by softwood species group, 1999.

Species

- The loblolly and shortleaf pine group provided the most volume of any softwood species group, accounting for 57 percent of the total softwood output (fig. 15). The

longleaf-slash pine type accounted for 39 percent of the softwood output. In hardwoods, the red oak and white oak groups combined accounted for 122 million cubic feet, or 40 percent of total hardwood output (fig. 16).

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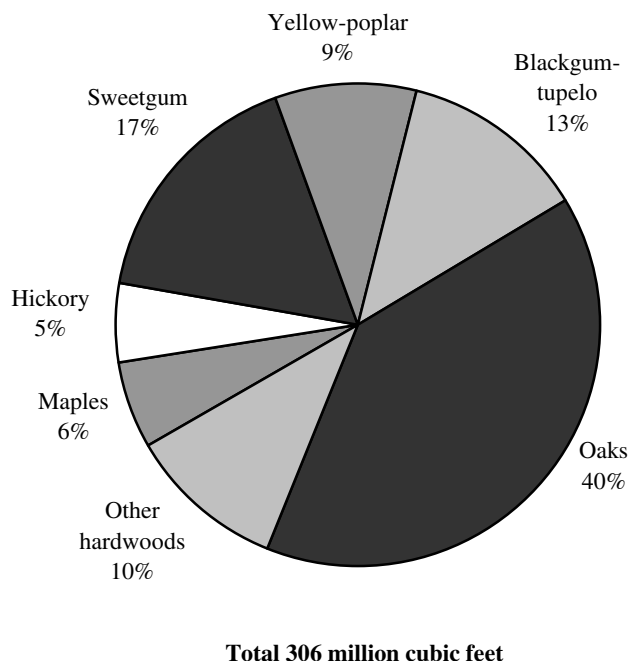


Figure 16—Roundwood output by hardwood species group, 1999.

Definition of Terms

Board foot. Unit of measure applied to roundwood. It relates to lumber that is 1-foot long, 1-foot wide, and 1-inch thick (or its equivalent).

Byproducts. Primary wood products, e.g., pulp chips, animal bedding, fuelwood, recycled from mill residues.

Composite products. Roundwood products manufactured into chips, wafers, strands, flakes, shavings, or sawdust and then reconstituted into a variety of panel and engineered lumber products.

Consumption. The quantity of a commodity, such as pulpwood, utilized by a particular mill or group of mills.

Drain. The volume of roundwood removed from any geographic area where timber is grown.

Exports. The volume of roundwood utilized by mills outside the State where timber was cut.

Fiber products. Byproducts used in the manufacture of pulp, paper, paperboard, and composite products, such as waferboard or chipboard.

Fuelwood production. The volume of roundwood harvested to produce some form of energy, e.g., heat, steam, in residential, industrial, or institutional settings.

Growing-stock removals. The growing-stock volume removed from poletimber and sawtimber trees in the timberland inventory. (Note: Includes volume removed for roundwood products, logging residues, and other removals.)

Growing-stock trees. Living trees of commercial species classified as sawtimber, poletimber, saplings, and seedlings. Growing-stock trees must contain at least one 12-foot or two 8-foot logs in the saw-log portion, currently or potentially (if too small to qualify). The log(s) must meet dimension and merchantability standards and have, currently or potentially, one-third of the gross board-foot volume in sound wood.

Growing-stock volume. The cubic-foot volume of sound wood in growing-stock trees at least 5.0 inches d.b.h. from a 1-foot stump to a minimum 4.0-inch top d.o.b. of the central stem.

Hardwoods. Dicotyledonous trees, usually broadleaf and deciduous.

Soft hardwoods. Hardwood species with an average specific gravity of 0.50 or less, such as gums, yellow-poplar, cottonwoods, red maple, basswoods, and willows.

Hard hardwoods. Hardwood species with an average specific gravity greater than 0.50, such as oaks, hard maples, hickories, and beech.

Imports. The volume of roundwood delivered to a mill or group of mills in a specific State but harvested outside that State.

Industrial fuelwood. A roundwood product, with or without bark, used to generate energy at a manufacturing facility such as a wood-using mill.

Industrial roundwood products. Any primary use of the main stem of a tree, such as saw logs, pulpwood, veneer logs, intended to be processed into primary wood products such as lumber, wood pulp, sheathing, at primary wood-using mills.

International ¼-inch rule. A log rule or formula for estimating the board-foot volume of logs, allowing ½-inch of taper for each 4-foot length. The rule appears in a number of forms that allow for kerf. In the form used by FIA, a ¼-inch of kerf is assumed. This rule is used as the USDA Forest Service standard log rule in the Eastern United States.

Log. A primary forest product harvested in long, primarily 8-, 12-, and 16-foot lengths.

Logging residues. The unused merchantable portion of growing-stock trees cut or destroyed during logging operations.

Merchantable portion. That portion of live trees 5.0 inches d.b.h. and larger between a 1-foot stump and a minimum 4.0-inch top d.o.b. on the central stem. That portion of primary forks from the point of occurrence to a minimum 4.0-inch top d.o.b. is included.

Merchantable volume. Solid-wood volume in the merchantable portion of live trees.

Noncommercial species. Tree species of typically small size, poor form, or inferior quality that normally do not develop into trees suitable for industrial wood products.

Nonforest land. Land that has never supported forests and land formerly forested where timber production is precluded by development for other uses.

Nongrowing-stock sources. The net volume removed from the nongrowing-stock portions of poletimber and sawtimber trees (stumps, tops, limbs, cull sections of central stem) and from any portion of a rough, rotten, sapling, dead, or nonforest tree.

Other forest land. Forest land other than timberland and productive reserved forest land. It includes available and reserved forest land that is incapable of producing annually 20 cubic feet per acre of industrial wood under natural conditions because of adverse site conditions such as sterile soils, dry climate, poor drainage, high elevation, steepness, or rockiness.

Other products. A miscellaneous category of roundwood products, e.g., cooperage, excelsior, shingles, and mill residue byproducts (charcoal, bedding, mulch, etc.).

Other removals. The growing-stock volume of trees removed from the inventory by cultural operations such as timber stand improvement, land clearing, and other changes in land use, resulting in the removal of the trees from timberland.

Other sources. (see: Nongrowing-stock sources.)

Ownership. The property owned by one ownership unit, including all parcels of land in the United States.

National forest land. Federal land that has been legally designated as national forests or purchase units, and other land under the administration of the Forest Service, including experimental areas and Bankhead-Jones Title III land.

Forest industry land. Land owned by companies or individuals operating primary wood-using plants.

Nonindustrial private forest (NIPF) land. Privately owned land excluding forest industry land.

Corporate. Owned by corporations, including incorporated farm ownerships.

Individual. All lands owned by individuals, including farm operators.

Other public. An ownership class that includes all public lands except national forests.

Miscellaneous Federal land. Federal land other than national forests.

State, county, and municipal land. Land owned by States, counties, and local public agencies or municipalities, or land leased to these governmental units for 50 years or more.

Plant residues. Wood material generated in the production of timber products at primary manufacturing plants.

Coarse residues. Material, such as slabs, edgings, trim, veneer cores and ends, which is suitable for chipping.

Fine residues. Material, such as sawdust, shavings, and veneer chippings, which is not suitable for chipping.

Plant byproducts. Residues (coarse or fine) used in the further manufacture of industrial products for consumer use or as fuel.

Unused plant residues. Residues (coarse or fine) that are not used for any product, including fuel.

Posts, poles, and pilings. Roundwood products milled (cut or peeled) into standard sizes (lengths and circumferences) to be put in the ground to provide vertical and lateral support in buildings, foundations, utility lines, and fences. May also include nonindustrial (unmilled) products.

Poletimber-size trees. Softwoods 5.0 to 8.9 inches d.b.h. and hardwoods 5.0 to 10.9 inches d.b.h.

Primary wood-using plants. Industries that convert roundwood products (saw logs, veneer logs, pulpwood, etc.) into primary wood products, such as lumber, veneer or sheathing, wood pulp.

Production. The total volume of roundwood harvested from land within a State, regardless of where it is consumed. Production is the sum of timber harvested and used within a State, and all roundwood exported to other States.

Pulpwood. A roundwood product that will be reduced to individual wood fibers by chemical or mechanical means. The fibers are used to make a broad generic group of pulp products that includes paper products, as well as chipboard, fiberboard, insulating board, and paperboard.

Receipts. The quantity or volume of industrial roundwood received at a mill or by a group of mills in a State, regardless of the geographic source. Volume of roundwood receipts is equal to the volume of roundwood retained in a State plus roundwood imported from other States.

Retained. Roundwood volume harvested from and processed by mills within the same State.

Rotten trees. Live trees of commercial species not containing at least one 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, now or prospectively, primarily because of rot or missing sections, and with less than one-third of the gross board-foot tree volume in sound material.

Rough trees. Live trees of commercial species not containing at least one 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, now or prospectively, primarily because of roughness, poor form, splits, and cracks, and with less than one-third of the gross board-foot tree volume in sound material; and live trees of noncommercial species.

Roundwood (roundwood logs). Logs, bolts, or other round sections cut from trees for industrial manufacture or consumer uses.

Roundwood chipped. Any timber cut primarily for industrial manufacture, delivered to nonpulp mills, chipped, and then sold to pulpmills for use as fiber. Includes tops, jump sections, whole trees, and pulpwood sticks.

Roundwood products. Any primary product, such as lumber, poles, pilings, pulp, or fuelwood that is produced from roundwood.

Roundwood product drain. That portion of total drain used for a product.

Salvable dead trees. Standing or downed dead trees that were formerly growing stock and considered merchantable. Trees must be at least 5.0 inches d.b.h. to qualify.

Saplings. Live trees 1.0 to 5.0 inches d.b.h.

Saw log. A roundwood product, usually 8 feet in length or longer, processed into a variety of sawn products such as lumber, cants, pallets, railroad ties, and timbers.

Saw-log portion. The part of the bole of sawtimber trees between a 1-foot stump and the saw-log top.

Saw-log top. The point on the bole of sawtimber trees above which a conventional saw log cannot be produced. The minimum saw-log top is 7.0 inches d.o.b. for softwoods and 9.0 inches d.o.b. for hardwoods.

Sawtimber-size trees. Softwoods 9.0 inches d.b.h. and larger and hardwoods 11.0 inches d.b.h. and larger.

Sawtimber volume. Growing-stock volume in the saw-log portion of sawtimber-sized trees in board feet (International ¼-inch rule).

Seedlings. Trees less than 1.0 inch d.b.h. and greater than 1 foot tall for hardwoods, greater than 6 inches tall for softwood, and greater than 0.5 inch in diameter at ground level for longleaf pine.

Select red oaks. A group of several red oak species composed of cherrybark, Shumard, and northern red oaks. Other red oak species are included in the other red oaks group.

Select white oaks. A group of several white oak species composed of white, swamp chestnut, swamp white, chinkapin, Durand, and bur oaks. Other white oak species are included in the other white oaks group.

Softwoods. Coniferous trees, usually evergreen, having leaves that are needles or scalelike.

Standard cord. A unit of measure applied to roundwood, usually bolts or split wood. It is a stack of wood 4 feet high, 4 feet wide, and 8 feet long encompassing 128 cubic feet of wood, bark, and air space. This usually translates to approximately 75.0 to 81.0 cubic feet of solid wood for pulpwood, because pulpwood is more uniform.

Standard unit. A unit measure applied to roundwood timber products. Board feet (International ¼ rule) is the standard unit used for saw logs and veneer; cords are used for pulpwood, composite panel, and fuelwood; hundred pieces for poles; thousand pieces for posts; and thousand cubic feet for all other miscellaneous forest products.

Timberland. Forest land capable of producing 20 cubic feet of industrial wood per acre per year and not withdrawn from timber utilization.

Timber products. Roundwood products and byproducts.

Timber products output. The total volume of roundwood products from all sources plus the volume of byproducts

recovered from mill residues (equals roundwood product drain).

Timber removals. The total volume of trees removed from the timberland inventory by harvesting, cultural operations such as stand improvement, land clearing, or changes in land use. (Note: Includes roundwood products, logging residues, and other removals.)

Tree. Woody plants having one erect perennial stem or trunk at least 3 inches d.b.h., a more or less definitely formed crown of foliage, and a height of at least 13 feet (at maturity).

Upper-stem portion. The part of the main stem of sawtimber trees above the saw-log top and the minimum top

diameter of 4.0 inches outside bark, or to the point where the main stem breaks into limbs.

Utilization studies. Studies conducted on active logging operations to develop factors for merchantable portions of trees left in the woods (logging residues), logging damage, and utilization of the unmerchantable portion of growing-stock trees and nongrowing stock trees.

Veneer log. A roundwood product either rotary cut, sliced, stamped, or sawn into a variety of veneer products such as plywood, finished panels, veneer sheets, or sheathing.

Weight. A unit of measure for mill residues, expressed as oven-dry tons (2,000 oven-dry pounds).

Conversion Factors^a

Saw logs

Softwood	0.18349 cubic foot = 1 board foot 5.45 board feet = 1 cubic foot
Hardwood	0.16807 cubic foot = 1 board foot 5.95 board feet = 1 cubic foot

Veneer logs

Softwood	0.17094 cubic foot = 1 board foot 5.85 board feet = 1 cubic foot
Hardwood	0.16260 cubic foot = 1 board foot 6.15 board feet = 1 cubic foot

Pulpwood^b

Softwood	72.6 cubic feet per cord
Hardwood	75.0 cubic feet per cord

^a Conversion factors vary with stem size (d.b.h.) and species. The factors shown are for trees of average diameters removed in Georgia during the most recent survey period.

^b Cubic feet of solid wood per cord.

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Table 1—Output of industrial products by product and species group, Georgia, 1997 and 1999

Product and species group	Year		Change	Percent change
	1997	1999		
Thousand cubic feet				
Saw logs				
Softwood	442,584	446,881	4,297	1.0
Hardwood	77,028	61,768	-15,260	-19.8
Total	519,612	508,649	-10,963	-2.1
Veneer logs				
Softwood	61,469	59,547	-1,922	-3.1
Hardwood	15,649	15,858	209	1.3
Total	77,118	75,405	-1,713	-2.2
Pulpwood ^a				
Softwood	437,957	431,017	-6,940	-1.6
Hardwood	179,336	162,535	-16,801	-9.4
Total	617,293	593,552	-23,741	-3.8
Composite panels				
Softwood	42,653	39,996	-2,657	-6.2
Hardwood	7,134	6,176	-958	-13.4
Total	49,787	46,172	-3,615	-7.3
Other industrial				
Softwood	16,234	20,005	3,771	23.2
Hardwood	537	758	221	41.2
Total	16,771	20,763	3,992	23.8
All industrial				
Softwood	1,000,897	997,446	-3,451	-0.3
Hardwood	279,684	247,095	-32,589	-11.7
Total	1,280,581	1,244,541	-36,040	-2.8
Byproduct output				
Softwood	394,117	396,075	1,958	0.5
Hardwood	84,568	78,014	-6,554	-7.7
Total	478,685	474,089	-4,596	-1.0
Total output				
Softwood	1,395,014	1,393,521	-1,493	-0.1
Hardwood	364,252	325,109	-39,143	-10.7
Total	1,759,266	1,718,630	-40,636	-2.3

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills (23,958,000 cubic feet in 1997 and 15,947,000 cubic feet in 1999).

**Table 2—Roundwood receipts by product and species group,
Georgia, 1997 and 1999**

Product and species group	Year		Change	Percent change
	1997	1999		
Thousand cubic feet				
Saw logs				
Softwood	458,837	453,118	-5,719	-1.2
Hardwood	71,837	58,957	-12,880	-17.9
Total	530,674	512,075	-18,599	-3.5
Veneer logs				
Softwood	59,219	62,058	2,839	4.8
Hardwood	20,741	23,289	2,548	12.3
Total	79,960	85,347	5,387	6.7
Pulpwood ^a				
Softwood	480,105	417,830	-62,275	-13.0
Hardwood	191,823	175,900	-15,923	-8.3
Total	671,928	593,730	-78,198	-11.6
Composite panels				
Softwood	44,837	39,957	-4,880	-10.9
Hardwood	14,222	13,430	-792	-5.6
Total	59,059	53,387	-5,672	-9.6
Other industrial				
Softwood	15,840	20,543	4,703	29.7
Hardwood	559	806	247	44.2
Total	16,399	21,349	4,950	30.2
Total output				
Softwood	1,058,838	993,506	-65,332	-6.2
Hardwood	299,182	272,382	-26,800	-9.0
Total	1,358,020	1,265,888	-92,132	-6.8

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills
(26,658,000 cubic feet in 1997 and 18,615,000 cubic feet in 1999).

Table 3—Number of primary wood-using plants by industry, Georgia, 1980–1999

Industry	Year							
	1980	1983	1986	1989	1992	1995	1997	1999
Sawmills	265	222	239	172	178	144	129	129
Veneer mills	22	19	18	16	14	12	11	12
Pulpmills	15	15	15	14	13	14	13	12
Composite panel mills	0	0	0	3	4	5	5	4
Other mills	25	28	29	26	41	32	28	31
All plants	327	284	301	231	250	207	186	188

Table 4—Roundwood receipts by sawmill size, Georgia, 1997 and 1999

Sawmill size class ^a	1997			1999		
	Number of mills	Thousand board feet	Percent of volume	Number of mills	Thousand board feet	Percent of volume
<i>Million board feet</i>						
< 1.0	32	8,449	0	34	6,706	0
1.0–4.99	32	88,731	3	34	92,319	3
5.0–9.99	16	111,749	4	13	86,761	3
10.0–49.99	27	654,110	23	26	612,547	22
> 50	22	2,038,801	70	22	2,028,632	72
Total	129	2,901,840	100	129	2,826,965	100

^a Based on volume received as opposed to actual capacity.

Table 5—Roundwood receipts by species and type of mill, Georgia, 1999

Species	Type of mill						
	All mills	Veneer mills			OSB ^a and panels	Pulpmills ^b	Other mills
		Sawmills	Pine plywood	Other veneer			
Thousand cubic feet							
Softwood							
Yellow pine	567,566	447,774	52,471	9,587	39,957	NA	17,777
Eastern white pine	1,740	1,740	0	0	0	NA	0
Cedar	181	4	0	0	0	NA	177
Cypress	5,959	3,370	0	0	0	NA	2,589
Other softwood	230	230	0	0	0	NA	0
Unclassified	417,830	0	0	0	0	417,830	0
Total softwoods	993,506	453,118	52,471	9,587	39,957	417,830	20,543
Hardwood							
Blackgum and tupelo	8,738	1,671	1,032	1,240	4,795	NA	0
Soft maple	2,920	1,771	0	32	1,117	NA	0
Sweetgum	13,408	8,785	558	1,353	2,712	NA	0
Yellow-poplar	28,260	9,748	12,411	4,658	1,275	NA	168
Other soft hardwood	4,436	1,208	0	415	2,813	NA	0
Hickory	3,177	2,777	0	0	0	NA	400
Red oak	20,838	19,164	0	870	718	NA	86
White oak	10,214	9,635	0	493	0	NA	86
Other hard hardwood	4,491	4,198	0	227	0	NA	66
Unclassified	175,900	0	0	0	0	175,900	0
Total hardwoods	272,382	58,957	14,001	9,288	13,430	175,900	806
All species	1,265,888	512,075	66,472	18,875	53,387	593,730	21,349

NA = not applicable.

^a OSB = oriented strand board.^b Collected only by softwood and hardwood and includes roundwood chipped.**Table 6—Industrial roundwood movement by year and species group, Georgia, 1997 and 1999**

Year	Production	Exported to other States	Retained	Imported from other States	Receipts
<i>Thousand cubic feet</i>					
Softwood					
1997	1,000,897	118,659	882,238	176,600	1,058,838
1999	997,446	144,874	852,572	140,934	993,506
Hardwood					
1997	279,684	44,542	235,142	64,040	299,182
1999	247,095	42,954	204,141	68,241	272,382
All species					
1997	1,280,581	163,201	1,117,380	240,640	1,358,020
1999	1,244,541	187,828	1,056,713	209,175	1,265,888

Table 7—Industrial roundwood movement by product and species group, Georgia, 1999

Product and species group	Production	Exported to other States	Retained	Imported from other States	Receipts
<i>Thousand cubic feet</i>					
Saw logs					
Softwood	446,881	33,235	413,646	39,472	453,118
Hardwood	61,768	4,204	57,564	1,393	58,957
Total	508,649	37,439	471,210	40,865	512,075
Veneer logs					
Softwood	59,547	9,119	50,428	11,630	62,058
Hardwood	15,858	1,105	14,753	8,536	23,289
Total	75,405	10,224	65,181	20,166	85,347
Pulpwood^a					
Softwood	431,017	99,497	331,520	86,310	417,830
Hardwood	162,535	37,413	125,122	50,778	175,900
Total	593,552	136,910	456,642	137,088	593,730
Composite panels					
Softwood	39,996	1,514	38,482	1,475	39,957
Hardwood	6,176	232	5,944	7,486	13,430
Total	46,172	1,746	44,426	8,961	53,387
Other industrial					
Softwood	20,005	1,509	18,496	2,047	20,543
Hardwood	758	0	758	48	806
Total	20,763	1,509	19,254	2,095	21,349
All products					
Softwood	997,446	144,874	852,572	140,934	993,506
Hardwood	247,095	42,954	204,141	68,241	272,382
Total	1,244,541	187,828	1,056,713	209,175	1,265,888

^a Includes roundwood chipped.

Table 8—Saw-log volume by destination, source, and species group, Georgia, 1999

Destination and source	All species	Species group	
		Softwood	Hardwood
<i>Thousand cubic feet</i>			
Georgia (retained)	471,210	413,646	57,564
Exports to:			
Alabama	25,321	23,698	1,623
Florida	6,508	5,987	521
North Carolina	1,869	190	1,679
South Carolina	3,676	3,351	325
Tennessee	65	9	56
Total	37,439	33,235	4,204
Imports from:			
Alabama	1,552	997	555
Florida	20,334	20,215	119
North Carolina	359	263	96
South Carolina	16,562	15,959	603
Tennessee	2,058	2,038	20
Total	40,865	39,472	1,393

Table 9—Veneer volume by destination, source, and species group, Georgia, 1999

Destination and source	All species	Species group	
		Softwood	Hardwood
Thousand cubic feet			
Georgia (retained)	65,181	50,428	14,753
Exports to:			
Alabama	3,595	3,143	452
Florida	5,976	5,976	0
North Carolina	201	0	201
South Carolina	452	0	452
Total	10,224	9,119	1,105
Imports from:			
Alabama	5,225	2,307	2,918
Florida	4,796	4,587	209
Kentucky	2,137	95	2,042
North Carolina	835	138	697
South Carolina	869	518	351
Ohio	48	0	48
Tennessee	4,328	3,890	438
Virginia	1,928	95	1,833
Total	20,166	11,630	8,536

Table 10—Pulpwood volume by destination, source, and species group, Georgia, 1999^a

Destination and source	All species	Species group	
		Softwood	Hardwood
Thousand cubic feet			
Georgia (retained)	456,642	331,520	125,122
Exports to:			
Alabama	68,066	51,362	16,704
Florida	50,711	35,759	14,952
Kentucky	2,761	0	2,761
Louisiana	1	0	1
Mississippi	4	0	4
North Carolina	353	339	14
South Carolina	6	6	0
Tennessee	14,999	12,030	2,969
Virginia	9	1	8
Total	136,910	99,497	37,413
Imports from:			
Alabama	35,173	30,561	4,612
Florida	42,090	32,990	9,100
North Carolina	217	135	82
South Carolina	58,924	21,985	36,939
Tennessee	684	639	45
Total	137,088	86,310	50,778

^a Includes roundwood chipped delivered to nonpulpmills, then chipped and sold to pulpmills.

Table 11—Composite panel volume by destination, source, and species group, Georgia, 1999

Destination and source	All species	Species group	
		Softwood	Hardwood
<i>Thousand cubic feet</i>			
Georgia (retained)	44,426	38,482	5,944
Exports to:			
Alabama	273	268	5
Tennessee	1,473	1,246	227
Total	1,746	1,514	232
Imports from:			
Florida	7,406	0	7,406
South Carolina	1,555	1,475	80
Total	8,961	1,475	7,486

Table 12—Other industrial volume by destination, source, and species group, Georgia, 1999^a

Destination and source	All species	Species group	
		Softwood	Hardwood
<i>Thousand cubic feet</i>			
Georgia (retained)	19,254	18,496	758
Exports to:			
Alabama	78	78	0
Florida	1,199	1,199	0
South Carolina	164	164	0
Virginia	68	68	0
Total	1,509	1,509	0
Imports from:			
Alabama	75	27	48
Florida	1,543	1,543	0
Mississippi	151	151	0
South Carolina	326	326	0
Total	2,095	2,047	48

^a Includes poles, posts, mulch, firewood, log homes, charcoal, and all other industrial mills.

Table 13—Primary mill residue volume by roundwood type, species group, and residue type, Georgia, 1999

Roundwood type and species group	All types	Residue type			
		Bark	Coarse	Sawdust	Shavings
Thousand cubic feet					
Saw logs					
Softwood	287,995	40,147	139,567	66,734	41,547
Hardwood	35,634	6,682	16,380	12,271	301
Total	323,629	46,829	155,947	79,005	41,848
Veneer logs					
Softwood	41,430	5,885	19,507	16,038	0
Hardwood	17,157	2,742	7,330	7,085	0
Total	58,587	8,627	26,837	23,123	0
Pulpwood					
Softwood	41,722	41,722	0	0	0
Hardwood	21,918	21,918	0	0	0
Total	63,640	63,640	0	0	0
Composite panels					
Softwood	8,925	8,925	0	0	0
Hardwood	3,436	3,436	0	0	0
Total	12,361	12,361	0	0	0
Other industrial ^a					
Softwood	24,364	13,567	10,036	761	0
Hardwood	450	100	252	98	0
Total	24,814	13,667	10,288	859	0
Total					
Softwood	404,436	110,246	169,110	83,533	41,547
Hardwood	78,595	34,878	23,962	19,454	301
Total	483,031	145,124	193,072	102,987	41,848

^a Includes poles, pilings, posts, and other industrial products.

Table 14—Disposal of residue at primary wood-using plants by product, species group, and type of residue, Georgia, 1997 and 1999

Product and species group	All types		Bark		Coarse		Sawdust		Shavings	
	1997	1999	1997	1999	1997	1999	1997	1999	1997	1999
<i>Thousand cubic feet</i>										
Fiber products										
Softwood	154,920	154,119	2,217	0	144,569	143,489	6,783	3,701	1,351	6,929
Hardwood	21,596	16,772	1,044	0	17,876	16,762	2,673	7	3	3
Total	176,516	170,891	3,261	0	162,445	160,251	9,456	3,708	1,354	6,932
Particleboard										
Softwood	57,338	62,930	375	0	3,627	10,652	25,879	26,056	27,457	26,222
Hardwood	1,119	954	0	0	679	561	400	393	40	0
Total	58,457	63,884	375	0	4,306	11,213	26,279	26,449	27,497	26,222
Sawn products										
Softwood	3,630	3,726	0	0	3,630	3,726	0	0	0	0
Hardwood	1,535	1,578	0	0	1,535	1,578	0	0	0	0
Total	5,165	5,304	0	0	5,165	5,304	0	0	0	0
Fuel										
Softwood	142,718	135,973	86,699	81,848	6,397	6,774	42,872	42,769	6,750	4,582
Hardwood	55,355	52,289	33,888	30,251	3,960	3,404	17,118	18,352	389	282
Total	198,073	188,262	120,587	112,099	10,357	10,178	59,990	61,121	7,139	4,864
Miscellaneous										
Softwood	35,511	39,327	25,089	25,118	1,943	3,505	6,082	6,891	2,397	3,813
Hardwood	4,963	6,421	3,109	4,253	1,104	1,601	722	551	28	16
Total	40,474	45,748	28,198	29,371	3,047	5,106	6,804	7,442	2,425	3,829
Not used										
Softwood	4,166	8,361	546	3,280	798	964	2,172	4,116	650	1
Hardwood	421	581	87	374	153	56	181	151	0	0
Total	4,587	8,942	633	3,654	951	1,020	2,353	4,267	650	1
All products										
Softwood	398,283	404,436	114,926	110,246	160,964	169,110	83,788	83,533	38,605	41,547
Hardwood	84,989	78,595	38,128	34,878	25,307	23,962	21,094	19,454	460	301
Total	483,272	483,031	153,054	145,124	186,271	193,072	104,882	102,987	39,065	41,848

Table 15—Roundwood timber products output by product and species group, Southeast Georgia, 1997 and 1999

Product and species group	Year		Change	Percent change
	1997	1999		
Thousand cubic feet				
Saw logs				
Softwood	152,514	161,085	8,571	5.6
Hardwood	14,716	12,669	-2,047	-13.9
Total	167,230	173,754	6,524	3.9
Veneer logs				
Softwood	12,640	8,767	-3,873	-30.6
Hardwood	2,345	2,216	-129	-5.5
Total	14,985	10,983	-4,002	-26.7
Pulpwood ^a				
Softwood	185,296	177,758	-7,538	-4.1
Hardwood	57,936	52,019	-5,917	-10.2
Total	243,232	229,777	-13,455	-5.5
Composite panels				
Softwood	1,946	2,006	60	3.1
Hardwood	1,112	1,322	210	18.9
Total	3,058	3,328	270	8.8
Other industrial				
Softwood	10,091	12,804	2,713	26.9
Hardwood	0	0	0	--
Total	10,091	12,804	2,713	26.9
All industrial				
Softwood	362,487	362,420	-67	-0.0
Hardwood	76,109	68,226	-7,883	-10.4
Total	438,596	430,646	-7,950	-1.8

-- = negligible.

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulpmills (10,943,000 cubic feet in 1997 and 6,258,000 cubic feet in 1999).

Table 16—Roundwood timber products output by county, product, and species group, Southeast Georgia, 1999

County	All products		Saw logs		Veneer logs		Pulpwood ^a		Composite panels		Other industrial	
	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood
<i>Thousand cubic feet</i>												
Appling	14,093	1,426	4,731	24	2,034	115	6,871	1,287	0	0	457	0
Atkinson	5,888	102	2,322	5	508	0	2,234	54	118	43	706	0
Bacon	6,843	1,150	3,357	24	508	67	2,721	1,059	0	0	257	0
Brantley	18,917	1,407	8,481	0	508	0	8,813	1,407	0	0	1,115	0
Bryan	4,202	936	1,790	0	0	0	2,310	936	0	0	102	0
Bulloch	9,454	1,169	5,954	37	138	5	3,160	1,127	0	0	202	0
Camden	15,333	3,101	4,906	0	0	0	10,350	3,101	0	0	77	0
Candler	8,143	1,201	4,763	12	0	81	3,331	1,108	0	0	49	0
Charlton	19,422	911	6,044	2	0	0	12,536	909	0	0	842	0
Chatham	1,686	754	505	47	0	67	1,130	640	0	0	51	0
Clinch	29,560	1,978	12,752	2	1,017	0	15,083	1,497	0	479	708	0
Coffee	8,094	1,610	3,702	206	1,006	41	2,751	1,342	236	21	399	0
Dodge	6,683	3,413	3,083	247	248	234	2,830	2,932	354	0	168	0
Echols	18,058	624	9,247	2	0	21	8,448	122	0	479	363	0
Effingham	10,425	3,326	5,960	165	0	97	4,464	3,064	0	0	1	0
Emanuel	13,375	2,815	7,008	965	138	58	5,508	1,728	354	64	367	0
Evans	3,437	1,085	2,299	12	0	33	1,005	1,040	0	0	133	0
Glynn	13,356	1,447	5,417	0	0	0	6,865	1,447	0	0	1,074	0
Jeff Davis	9,562	2,369	4,104	175	994	151	4,139	2,043	0	0	325	0
Jenkins	5,945	1,030	3,541	554	0	0	2,345	476	0	0	59	0
Johnson	4,023	2,861	1,884	2,265	0	32	1,903	564	236	0	0	0
Laurens	8,798	3,933	4,312	2,435	415	22	3,688	1,455	236	21	147	0
Liberty	10,671	3,567	4,456	0	0	0	6,016	3,567	0	0	199	0
Long	11,806	5,485	6,726	755	0	0	4,931	4,730	0	0	149	0
McIntosh	9,690	3,438	3,744	0	0	0	5,720	3,438	0	0	226	0
Montgomery	3,757	1,895	2,442	980	0	115	1,047	800	118	0	150	0
Pierce	9,071	1,218	4,754	24	0	67	3,172	1,127	0	0	1,145	0
Screven	10,437	3,785	6,467	855	0	357	3,897	2,573	0	0	73	0
Tattnall	9,812	1,109	6,286	12	0	81	3,309	1,016	0	0	217	0
Telfair	7,987	2,246	2,118	1,179	497	117	4,908	756	118	194	346	0
Toombs	7,004	1,710	3,737	779	0	257	2,991	674	0	0	276	0
Treutlen	2,554	620	263	0	0	47	1,981	573	0	0	310	0
Ware	21,738	316	7,557	2	0	0	12,969	314	0	0	1,212	0
Wayne	18,827	2,297	4,745	0	508	0	12,882	2,297	0	0	692	0
Wheeler	3,769	1,892	1,628	904	248	151	1,450	816	236	21	207	0
All counties	362,420	68,226	161,085	12,669	8,767	2,216	177,758	52,019	2,006	1,322	12,804	0

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulpmills (6,258,000 cubic feet in 1999).

Table 17—Roundwood timber products output by product and species group, Southwest Georgia, 1997 and 1999

Product and species group	Year		Change	Percent change
	1997	1999		
Thousand cubic feet				
Saw logs				
Softwood	85,845	77,846	-7,999	-9.3
Hardwood	3,580	5,049	1,469	41.0
Total	89,425	82,895	-6,530	-7.3
Veneer logs				
Softwood	9,369	8,096	-1,273	-13.6
Hardwood	3,558	3,219	-339	-9.5
Total	12,927	11,315	-1,612	-12.5
Pulpwood ^a				
Softwood	39,789	43,915	4,126	10.4
Hardwood	21,836	22,298	462	2.1
Total	61,625	66,213	4,588	7.4
Composite panels				
Softwood	5,965	6,140	175	2.9
Hardwood	2,377	2,532	155	6.5
Total	8,342	8,672	330	4.0
Other industrial				
Softwood	2,248	3,083	835	37.1
Hardwood	16	0	-16	-100.0
Total	2,264	3,083	819	36.2
All industrial				
Softwood	143,216	139,080	-4,136	-2.9
Hardwood	31,367	33,098	1,731	5.5
Total	174,583	172,178	-2,405	-1.4

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulpmills (4,303,000 cubic feet in 1997 and 2,548,000 cubic feet in 1999).

Table 18—Roundwood timber products output by county, product, and species group, Southwest Georgia, 1999

County	All products		Saw logs		Veneer logs		Pulpwood ^a		Composite panels		Other industrial	
	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood
<i>Thousand cubic feet</i>												
Baker	2,199	603	351	0	478	0	1,259	603	0	0	111	0
Ben Hill	5,084	1,858	2,250	184	248	83	1,585	1,548	945	43	56	0
Berrien	8,194	575	4,958	24	248	41	2,528	319	118	191	342	0
Brooks	7,718	1,453	5,598	0	358	0	1,394	1,432	236	21	132	0
Colquitt	12,782	1,317	9,767	161	478	0	2,122	1,092	354	64	61	0
Cook	3,644	1,167	3,007	465	0	0	519	542	118	160	0	0
Crisp	2,503	1,969	1,346	42	0	0	877	1,863	236	64	44	0
Decatur	8,895	4,038	2,336	1,195	896	1,246	5,554	1,597	0	0	109	0
Dooly	3,733	962	2,032	419	0	0	1,462	414	118	129	121	0
Early	5,730	2,102	1,514	512	478	207	3,738	1,383	0	0	0	0
Grady	7,230	3,057	2,830	227	896	458	3,222	2,351	118	21	164	0
Irwin	5,810	664	3,247	21	745	83	1,069	79	472	481	277	0
Lanier	5,130	230	3,070	0	0	0	1,717	230	0	0	343	0
Lowndes	7,080	1,650	5,404	0	0	0	1,557	1,171	0	479	119	0
Miller	1,572	1,223	629	113	239	207	704	903	0	0	0	0
Mitchell	6,755	3,222	1,873	0	776	53	2,224	2,956	1,536	213	346	0
Seminole	1,271	537	265	113	239	289	689	135	0	0	78	0
Thomas	9,960	2,607	6,047	113	657	261	3,159	2,233	0	0	97	0
Tift	1,841	567	988	0	248	41	116	376	236	150	253	0
Turner	4,933	307	3,344	0	248	83	1,037	9	236	215	68	0
Wilcox	13,046	1,648	8,113	1,083	248	83	3,523	353	945	129	217	0
Worth	13,970	1,342	8,877	377	616	84	3,860	709	472	172	145	0
All counties	139,080	33,098	77,846	5,049	8,096	3,219	43,915	22,298	6,140	2,532	3,083	0

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulpmills (2,548,000 cubic feet in 1999).

Table 19—Roundwood timber products output by product and species group, Central Georgia, 1997 and 1999

Product and species group	Year		Change	Percent change
	1997	1999		
Thousand cubic feet				
Saw logs				
Softwood	126,589	133,152	6,563	5.2
Hardwood	34,626	27,626	-7,000	-20.2
Total	161,215	160,778	-437	-0.3
Veneer logs				
Softwood	13,806	21,176	7,370	53.4
Hardwood	5,928	4,524	-1,404	-23.7
Total	19,734	25,700	5,966	30.2
Pulpwood ^a				
Softwood	124,555	125,472	917	0.7
Hardwood	69,246	63,040	-6,206	-9.0
Total	193,801	188,512	-5,289	-2.7
Composite panels				
Softwood	10,029	8,218	-1,811	-18.1
Hardwood	923	755	-168	-18.2
Total	10,952	8,973	-1,979	-18.1
Other industrial				
Softwood	1,503	906	-597	-39.7
Hardwood	82	82	0	--
Total	1,585	988	-597	-37.7
All industrial				
Softwood	276,482	288,924	12,442	4.5
Hardwood	110,805	96,027	-14,778	-13.3
Total	387,287	384,951	-2,336	-0.6

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^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulpmills (4,889,000 cubic feet in 1997 and 3,286,000 cubic feet in 1999).

Table 20—Roundwood timber products output by county, product, and species group, Central Georgia, 1999

County	All products		Saw logs		Veneer logs		Pulpwood ^a		Composite panels		Other industrial	
	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood
<i>Thousand cubic feet</i>												
Baldwin	5,231	2,234	2,079	724	1,109	250	2,042	1,260	0	0	1	0
Bibb	3,307	831	1,054	151	138	38	1,997	642	118	0	0	0
Bleckley	2,614	640	1,987	265	0	5	621	370	0	0	6	0
Burke	9,984	11,073	4,132	1,868	0	153	5,803	9,052	0	0	49	0
Butts	4,526	402	2,991	62	277	0	1,140	340	118	0	0	0
Calhoun	2,248	2,208	697	731	0	623	1,551	854	0	0	0	0
Chattahoochee	2,784	494	2,152	264	0	0	632	230	0	0	0	0
Clay	2,877	1,033	1,560	0	0	78	1,317	955	0	0	0	0
Columbia	5,556	985	4,808	183	0	0	748	802	0	0	0	0
Crawford	6,839	2,609	1,015	43	0	5	5,706	2,518	118	43	0	0
Dougherty	4,233	1,129	2,002	0	358	0	1,791	1,129	0	0	82	0
Glascok	2,451	603	1,857	222	277	0	199	381	118	0	0	0
Greene	6,551	1,411	2,623	69	3,353	123	515	1,219	0	0	60	0
Hancock	8,478	2,795	3,824	557	1,617	54	2,919	2,184	118	0	0	0
Harris	10,439	2,360	3,593	1,190	361	151	6,485	1,019	0	0	0	0
Houston	6,343	520	1,551	439	138	5	4,536	55	118	21	0	0
Jasper	4,337	2,320	2,228	1,232	554	158	1,533	930	0	0	22	0
Jefferson	6,356	5,755	3,849	3,004	0	70	2,271	2,681	236	0	0	0
Jones	6,853	1,155	1,947	43	970	76	3,818	1,036	118	0	0	0
Lamar	4,563	357	1,241	256	0	0	3,278	101	0	0	44	0
Lee	3,550	656	2,504	0	0	0	810	613	236	43	0	0
Lincoln	9,283	874	7,456	0	831	0	996	874	0	0	0	0
McDuffie	7,006	65	5,609	0	415	54	982	11	0	0	0	0
Macon	4,262	226	1,938	0	0	0	2,206	144	118	0	0	82
Marion	6,209	536	1,221	264	0	0	4,988	272	0	0	0	0
Monroe	8,686	1,962	3,259	668	554	264	4,829	1,030	0	0	44	0
Morgan	7,469	2,163	1,366	797	2,993	65	491	1,159	2,619	142	0	0
Muscogee	1,822	764	731	176	180	327	911	261	0	0	0	0
Peach	203	17	0	0	0	0	203	17	0	0	0	0
Pike	1,974	637	975	373	180	151	819	113	0	0	0	0
Pulaski	576	340	225	244	0	0	81	53	118	43	152	0
Putnam	8,115	1,694	2,163	427	1,386	157	3,997	1,073	527	37	42	0
Quitman	6,253	854	4,657	88	0	211	1,478	534	118	21	0	0
Randolph	8,292	3,596	4,013	341	0	704	4,279	2,551	0	0	0	0
Richmond	3,894	1,376	2,780	42	138	65	958	1,269	0	0	18	0
Schley	2,076	662	587	176	0	0	1,489	486	0	0	0	0
Stewart	16,824	4,642	6,087	176	0	0	10,619	4,445	118	21	0	0
Sumter	6,578	2,410	3,393	191	0	0	2,922	2,155	118	64	145	0
Talbot	7,551	2,823	1,367	603	180	378	5,768	1,648	236	194	0	0
Taliaferro	8,834	814	7,554	310	859	0	408	504	0	0	13	0
Taylor	7,998	1,026	1,359	639	0	5	5,812	361	827	21	0	0
Terrell	3,709	1,217	1,560	389	0	0	2,149	828	0	0	0	0
Twiggs	2,956	3,162	940	2,021	415	5	1,601	1,136	0	0	0	0
Upton	4,350	1,193	1,057	621	180	151	3,113	421	0	0	0	0
Warren	9,472	2,047	7,268	361	970	27	1,234	1,659	0	0	0	0
Washington	7,040	3,965	3,816	2,070	554	70	2,434	1,825	236	0	0	0
Webster	5,521	1,614	1,811	956	0	0	3,592	658	118	0	0	0
Wilkes	13,570	4,516	7,528	1,398	1,635	58	2,530	2,955	1,649	105	228	0
Wilkinson	8,281	9,262	2,738	2,992	554	43	4,871	6,227	118	0	0	0
All counties	288,924	96,027	133,152	27,626	21,176	4,524	125,472	63,040	8,218	755	906	82

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills (3,286,000 cubic feet in 1999).

Table 21—Roundwood timber products output by product and species group, North Central Georgia, 1997 and 1999

Product and species group	Year		Change	Percent change
	1997	1999		
Thousand cubic feet				
Saw logs				
Softwood	53,168	47,404	-5,764	-10.8
Hardwood	16,424	11,051	-5,373	-32.7
Total	69,592	58,455	-11,137	-16.0
Veneer logs				
Softwood	25,482	20,774	-4,708	-18.5
Hardwood	3,373	4,181	808	24.0
Total	28,855	24,955	-3,900	-13.5
Pulpwood ^a				
Softwood	59,266	54,837	-4,429	-7.5
Hardwood	19,995	15,383	-4,612	-23.1
Total	79,261	70,220	-9,041	-11.4
Composite panels				
Softwood	22,175	20,081	-2,094	-9.4
Hardwood	2,252	1,202	-1,050	-46.6
Total	24,427	21,283	-3,144	-12.9
Other industrial				
Softwood	2,060	2,421	361	17.5
Hardwood	363	526	163	44.9
Total	2,423	2,947	524	21.6
All industrial				
Softwood	162,151	145,517	-16,634	-10.3
Hardwood	42,407	32,343	-10,064	-23.7
Total	204,558	177,860	-26,698	-13.1

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulpmills (3,469,000 cubic feet in 1997 and 2,538,000 cubic feet in 1999).

Table 22—Roundwood timber products output by county, product, and species group, North Central Georgia, 1999

County	All products		Saw logs		Veneer logs		Pulpwood ^a		Composite panels		Other industrial	
	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood
<i>Thousand cubic feet</i>												
Banks	2,380	864	369	429	277	122	59	200	1,649	105	26	8
Barrow	837	781	0	14	480	65	66	685	291	15	0	2
Carroll	9,988	3,378	1,946	1,412	2,294	454	5,748	1,512	0	0	0	0
Clarke	993	248	0	92	970	0	23	156	0	0	0	0
Clayton	1,506	131	894	129	0	0	612	2	0	0	0	0
Cobb	2,883	180	1,810	5	180	5	893	106	0	0	0	64
Coweta	7,988	1,041	3,402	600	361	151	4,225	290	0	0	0	0
De Kalb	950	956	585	633	180	205	185	118	0	0	0	0
Douglas	1,387	130	780	0	180	0	427	130	0	0	0	0
Elbert	7,354	2,715	11	1,438	1,533	0	2,846	1,127	2,328	150	636	0
Fayette	3,156	247	1,545	78	180	0	1,431	169	0	0	0	0
Forsyth	1,211	437	151	37	92	218	289	138	679	44	0	0
Franklin	1,297	1,027	852	433	0	94	128	485	291	15	26	0
Fulton	8,128	1,295	4,140	563	541	157	3,447	511	0	0	0	64
Gwinnett	3,014	1,039	298	188	911	307	1,137	374	0	0	668	170
Hall	879	886	546	587	0	40	42	236	291	15	0	8
Haralson	6,660	857	2,349	264	1,752	75	2,559	518	0	0	0	0
Hart	109	78	5	0	0	40	0	38	0	0	104	0
Heard	5,774	1,192	1,732	302	361	175	3,681	507	0	0	0	208
Henry	5,532	1,187	2,758	693	319	59	2,455	435	0	0	0	0
Jackson	5,494	1,134	7	2	711	124	119	732	4,657	276	0	0
Madison	4,608	631	5	18	1,921	54	909	470	1,358	89	415	0
Meriwether	11,188	2,321	2,230	871	541	554	8,417	896	0	0	0	0
Newton	7,667	640	3,067	303	554	59	1,427	136	2,619	142	0	0
Oconee	1,865	302	527	12	138	0	909	275	291	15	0	0
Oglethorpe	12,525	1,846	3,470	500	3,067	123	785	947	4,657	276	546	0
Paulding	8,462	1,825	3,805	375	632	554	4,025	896	0	0	0	0
Polk	5,537	515	3,495	133	0	0	2,042	382	0	0	0	0
Rockdale	1,533	19	922	14	138	5	473	0	0	0	0	0
Spalding	1,416	850	390	656	138	54	888	140	0	0	0	0
Troup	9,175	3,086	4,084	242	632	378	4,459	2,466	0	0	0	0
Walton	4,021	505	1,229	28	1,691	109	131	306	970	60	0	2
All counties	145,517	32,343	47,404	11,051	20,774	4,181	54,837	15,383	20,081	1,202	2,421	526

^a Includes roundwood delivered to nonpulpmills, then chipped and sold to pulpmills (2,538,000 cubic feet in 1999).

Table 23—Roundwood timber products output by product and species group, North Georgia, 1997 and 1999

Product and species group	Year		Change	Percent change
	1997	1999		
Thousand cubic feet				
Saw logs				
Softwood	24,468	27,394	2,926	12.0
Hardwood	7,682	5,373	-2,309	-30.1
Total	32,150	32,767	617	1.9
Veneer logs				
Softwood	172	734	562	326.7
Hardwood	445	1,718	1,273	286.1
Total	617	2,452	1,835	297.4
Pulpwood ^a				
Softwood	29,051	29,035	-16	-0.1
Hardwood	10,323	9,795	-528	-5.1
Total	39,374	38,830	-544	-1.4
Composite panels				
Softwood	2,538	3,551	1,013	39.9
Hardwood	470	365	-105	-22.3
Total	3,008	3,916	908	30.2
Other industrial				
Softwood	332	791	459	138.3
Hardwood	76	150	74	97.4
Total	408	941	533	130.6
All industrial				
Softwood	56,561	61,505	4,944	8.7
Hardwood	18,996	17,401	-1,595	-8.4
Total	75,557	78,906	3,349	4.4

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulpmills (354,000 cubic feet in 1997 and 1,317,000 cubic feet in 1999).

Table 24—Roundwood timber products output by county, product, and species group, North Georgia, 1999

County	All products		Saw logs		Veneer logs		Pulpwood ^a		Composite panels		Other industrial	
	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood
<i>Thousand cubic feet</i>												
Bartow	8,104	738	4,991	273	0	0	3,113	401	0	0	0	64
Catoosa	674	504	146	425	0	0	437	79	0	0	91	0
Chattooga	3,665	1,197	2,489	414	0	0	965	783	0	0	211	0
Cherokee	5,575	796	3,008	339	319	48	2,248	345	0	0	0	64
Dade	161	416	49	92	0	0	112	324	0	0	0	0
Dawson	1,892	353	459	130	0	0	754	165	679	44	0	14
Fannin	1,099	1,135	681	542	0	490	418	103	0	0	0	0
Floyd	10,888	3,137	4,905	931	0	0	5,715	2,201	268	5	0	0
Gilmer	2,651	453	1,041	253	0	0	1,610	200	0	0	0	0
Gordon	4,653	453	1,526	31	0	0	3,127	422	0	0	0	0
Habersham	1,391	764	1,088	149	138	409	97	206	0	0	68	0
Lumpkin	1,485	168	891	106	0	40	586	14	0	0	8	8
Murray	7,102	3,454	1,749	63	0	0	4,481	3,232	872	159	0	0
Pickens	1,782	628	189	157	0	0	1,593	471	0	0	0	0
Rabun	521	441	448	290	0	144	5	7	0	0	68	0
Stephens	865	504	562	256	277	89	0	159	0	0	26	0
Towns	52	210	51	116	0	91	1	3	0	0	0	0
Union	455	492	332	195	0	293	123	4	0	0	0	0
Walker	2,011	843	939	450	0	0	770	393	0	0	302	0
White	3,134	360	1,201	139	0	114	558	18	1,358	89	17	0
Whitfield	3,345	355	649	22	0	0	2,322	265	374	68	0	0
All counties	61,505	17,401	27,394	5,373	734	1,718	29,035	9,795	3,551	365	791	150

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulpmills (1,317,000 cubic feet in 1999).

Table 25—Total roundwood output by product, species group, and source of material, Georgia, 1999

Product and species group	All sources	Total	Growing-stock trees		Other sources
			Sawtimber	Poletimber	
Thousand cubic feet					
Saw logs					
Softwood	446,881	436,557	419,103	17,454	10,324
Hardwood	61,768	59,096	55,660	3,436	2,672
Total	508,649	495,653	474,764	20,889	12,996
Veneer logs and bolts					
Softwood	59,547	58,172	57,591	581	1,375
Hardwood	15,858	15,733	15,576	157	125
Total	75,405	73,905	73,167	739	1,500
Pulpwood					
Softwood	431,017	420,123	194,945	225,178	10,894
Hardwood	162,535	149,572	67,721	81,851	12,963
Total	593,552	569,694	262,665	307,029	23,858
Composite panels					
Softwood	39,996	38,436	15,760	22,677	1,560
Hardwood	6,176	5,654	2,149	3,505	522
Total	46,172	44,090	17,908	26,182	2,082
Poles and posts					
Softwood	12,992	12,692	11,977	715	300
Hardwood	0	0	0	0	0
Total	12,992	12,692	11,977	715	300
Other miscellaneous					
Softwood	7,013	6,851	4,000	2,851	162
Hardwood	758	644	376	268	114
Total	7,771	7,495	4,376	3,119	276
Total industrial products					
Softwood	997,446	972,831	703,375	269,456	24,615
Hardwood	247,095	230,699	141,481	89,218	16,396
Total	1,244,541	1,203,530	844,857	358,674	41,011
Fuelwood					
Softwood	8,945	6,206	4,277	1,928	2,739
Hardwood	58,624	34,601	26,552	8,049	24,023
Total	67,569	40,807	30,829	9,978	26,762
All products					
Softwood	1,006,391	979,036	707,652	271,384	27,355
Hardwood	305,719	265,300	168,033	97,267	40,419
Total	1,312,110	1,244,337	875,686	368,651	67,773

Numbers in rows and columns may not sum to totals due to rounding.

Table 26—Total roundwood output by species group, survey unit, and ownership class, Georgia, 1999

		Ownership class			
Species group and survey unit	Total	National forest	Other public	Forest industry	Nonindustrial private
Thousand cubic feet					
Softwoods					
Southeast	365,672	0	7,060	176,205	182,407
Southwest	140,326	1,894	2,134	22,265	114,033
Central	291,511	2,407	11,312	84,917	192,874
North Central	146,825	0	3,972	29,911	112,941
North	62,057	1,567	3,808	9,352	47,331
Total softwoods	1,006,391	5,869	28,286	322,650	649,586
Hardwoods					
Southeast	84,411	0	6,065	20,699	57,647
Southwest	41,006	0	21	4,768	36,217
Central	118,839	202	2,011	24,143	92,483
North Central	40,034	0	1,427	4,702	33,906
North	21,429	3,541	3,683	5,278	8,927
Total hardwoods	305,719	3,743	13,206	59,591	229,179
All species	1,312,110	9,612	41,492	382,240	878,765

Numbers in rows and columns may not sum to totals due to rounding.

Table 27—Total roundwood output by species group, detailed species group, and product, Georgia, 1999

Species group and detailed species group	Product							
	Total	Saw log	Veneer	Pulpwood	Composite panel	Poles and posts	Other miscellaneous	Fuelwood
<i>Thousand cubic feet</i>								
Softwood								
Cedar	1,645	174	404	436	509	12	96	15
Longleaf-slash pine	389,612	181,684	12,940	173,286	6,591	9,045	2,603	3,463
White pine	911	397	0	505	0	0	0	8
Loblolly-shortleaf pine	568,319	243,984	45,108	236,974	30,143	3,381	3,676	5,052
Other yellow pines	33,651	14,754	877	14,125	2,635	379	584	299
Cypress	12,081	5,779	218	5,628	118	175	55	107
Hemlock	173	109	0	62	0	0	0	2
Total softwoods	1,006,391	446,881	59,547	431,017	39,996	12,992	7,013	8,945
Hardwood								
Soft maple	17,935	3,327	637	10,052	408	0	61	3,451
Hard maple	39	20	0	11	0	0	0	7
Other birch	1,209	164	176	581	55	0	0	232
Hickory	15,667	3,761	718	8,027	156	0	65	2,941
Beech	769	169	76	376	0	0	0	148
Ash	4,216	1,418	128	1,724	116	0	21	809
Sweetgum	51,402	12,239	2,214	26,348	582	0	158	9,862
Yellow-poplar	28,740	6,480	1,856	14,129	603	0	141	5,531
Blackgum-tupelo	38,313	4,379	1,682	23,654	1,219	0	17	7,361
Sycamore	763	252	27	311	18	0	8	147
Cottonwood	149	11	24	85	0	0	0	29
Black cherry	2,863	497	184	1,371	251	0	12	548
Select white oaks	16,488	4,017	1,305	7,766	196	0	45	3,157
Other white oaks	14,045	2,867	910	7,349	208	0	32	2,679
Select red oaks	4,601	1,175	328	2,074	122	0	23	879
Other red oaks	86,584	16,698	4,464	46,965	1,678	0	156	16,624
Basswood	85	13	0	56	0	0	0	16
Elm	4,407	1,136	200	2,168	56	0	1	846
Other Eastern hardwoods	17,444	3,145	929	9,489	508	0	16	3,358
Total hardwoods	305,719	61,768	15,858	162,535	6,176	0	758	58,624
All species	1,312,110	508,649	75,405	593,552	46,172	12,992	7,771	67,569

Numbers in rows and columns may not sum to totals due to rounding.

Table 28—Total roundwood output by species group, detailed species group, and ownership class, Georgia, 1999

		Ownership class			
Species group and detailed species group	Total	National forest	Other public	Forest industry	Nonindustrial private
Thousand cubic feet					
Softwood					
Cedar	1,645	0	28	654	963
Longleaf-slash pine	389,612	1,665	7,555	154,110	226,282
White pine	911	79	0	490	341
Loblolly-shortleaf pine	568,319	3,070	19,660	155,280	390,308
Other yellow pines	33,651	932	858	8,135	23,726
Cypress	12,081	0	183	3,980	7,917
Hemlock	173	124	0	0	49
Total softwoods	1,006,391	5,869	28,286	322,650	649,586
Hardwood					
Soft maple	17,935	227	1,373	3,919	12,416
Hard maple	39	0	0	2	37
Other birch	1,209	276	28	151	753
Hickory	15,667	202	990	4,129	10,347
Beech	769	0	0	91	678
Ash	4,216	19	366	693	3,138
Sweetgum	51,402	85	1,702	10,340	39,275
Yellow-poplar	28,740	567	1,005	3,911	23,257
Blackgum-tupelo	38,313	79	1,212	8,969	28,053
Sycamore	763	4	154	40	565
Cottonwood	149	0	0	32	117
Black cherry	2,863	0	55	319	2,489
Select white oaks	16,488	407	384	2,405	13,292
Other white oaks	14,045	801	2,090	3,333	7,821
Select red oaks	4,601	203	33	991	3,374
Other red oaks	86,584	731	2,991	16,293	66,570
Basswood	85	0	0	0	85
Elm	4,407	16	87	729	3,575
Other Eastern hardwoods	17,444	126	737	3,243	13,337
Total hardwoods	305,719	3,743	13,206	59,591	229,179
All species	1,312,110	9,612	41,492	382,240	878,765

Numbers in rows and columns may not sum to totals due to rounding.



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In 1999, industrial roundwood output from Georgia's forests totaled 1.24 billion cubic feet, 3 percent less than in 1997. Mill byproducts generated from primary manufacturers declined 1 percent to 474 million cubic feet. Almost all plant residues were used, primarily for fuel and fiber products. Pulpwood was the leading roundwood product at 594 million cubic feet; saw logs ranked second at 509 million cubic feet; veneer logs were third at 75 million cubic feet. The number of primary processing plants increased from 186 in 1997 to 188 in 1999. Total receipts declined 7 percent to 1.3 billion cubic feet.

Keywords: Pulpwood, residues, roundwood, saw logs, veneer logs, wood movement.

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